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RADIUM'S CONTRIBUTION TO SURGERY*

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I have long felt that the study of so novel and extraordinary an agent as radium should not be left exclusively to the student of physics or to the dermatologist, but that it be given a chance to demonstrate the virtues residing in it, if any there be, in the field of general surgery.

During the seven years past, in which it has been possible to obtain the material, I have taken many occasions to give trial to it, and while knowing my endeavors to demonstrate its utility are far from complete, this much can be said, that without prejudice I have applied it in 500 cases of disease, from the large field of exclusive surgical work and have found enough of interest in its application to warrant my speaking of it in the brief time allotted to me here.

From the first I have entertained the attitude of extreme scepticism, and can truly claim that with a wide and lifelong surgical experience my prejudices have been in favor of first resorting to all other surgical measures endorsed by time in cases in which I might desire to use radium. At the expenditure of much time, personal discomfort and expense, keeping an open mind, as it were, my one desire has been, not to exploit radium, but to test it.

A SURGICAL CURIOSITY

The absence of extensive records of its use in surgical literature is amply accounted for by the almost insuperable difficulty in obtaining a sufficient amount for study, and by the great cost of its production. It will be long before these conditions change materially, and it must to some extent remain a surgical curiosity. Yet, if its utility can be demonstrated in any definite way, its production and distribution will surely follow the law of supply and demand.

The world was hardly ceased to marvel at the ultra-scientific, almost inspired, research of Madame Curie, which rent the darkness and laid bare the unsuspected force of radiant energy in matter exhibited in the most demonstrable form of radium. As yet we know as little of it, as of the vital force that actuates our bodies, our functions, our intellects. The needs of surgery are greater than we are willing to admit. The ever-ready scalpel, caustic, cautery, medicine, are still our weapons.

For the moment dismiss from our thoughts serum therapy, vaccines and later laboratory products from which so much hope is raised, and look briefly at the one agent we have chosen to consider.

* Oration before the Section on Surgery of the American Medical Association, at the Sixty-first Annual Session, at St. Louis, June, 1910.

RADIO-ACTIVITY

The study of radio-activity is a wholly new science. From it has grown the realization that all matter is endowed with potential energy—atoms eternally breaking up and subject to the laws of death and decay. The instability of the ultimate atom is revealed for the first time in the discharge of electrons from atoms of radium, carrying their own charges of electricity, "if indeed, they be not electricity itself;" atoms, visible to the eye in their brilliant scintillation as they are shot into space and impinge on the fluorescent screen, or as they can be seen, diverted in the magnetic field, and weighed, timed and classified. The trained physicist accurately estimates their speed of travel, the varying electrical charge each carries, the changes they undergo and the ultimate transmutation into other elements.

Varieties of rays given off are productive of wholly different results when brought to bear on living structures. We must for the moment familiarize ourselves with the now commonly talked of *alpha*, *beta* and *gamma* rays, for we may soon learn to use them judiciously in practical work. The *alpha* are discarded; they have not been demonstrated to have any value therapeutically. They carry positive electricity on the shoulder of every atom; they can be sifted out by paper or by the glass wall of the tube containing radium and are better set aside for they only serve to burn the skin. The *beta* rays, however, are acquiring importance; these carry negative electricity and can be drawn this way and that by a magnet. They constitute the greater part of the available rays from radium. Some are held back by layers of obstructing films, as of lead foil, others penetrate deeper and others very deeply into living tissues. The *gamma* rays are more powerful and swift, penetrating all minor obstacles and even several inches of metal. But they carry no electric charge that is measurable.

Experience and experiment show that the softer *beta* rays are irritating to the skin, but can be held back by interposing thin lead foil between radium and the skin, allowing only the hard *beta* rays and the *gamma* to penetrate the tissues. This preliminary note prepares us to understand somewhat the results we see in living structures. As far as it is possible to understand this mysterious force, all we know is that we are dealing with a nascent electric atom, an electron, which supplies a negative discharge to the growth we are studying.

EFFECT ON NEW CELL GROWTH

In the play of radiant energy on a mass of new cell growth in a tumor, we often see a retrograde change, as striking as the shrinking of a mimosa plant under the touch of a human finger. Is there a supply of the needed electric balance, be it positive or negative, shot into the disorderly growth, which, perhaps, by exhaus-

tion has lost its equilibrium? Certain it is that success or failure depends on supplying a limited amount of the varied rays which we can filter out by degrees of interposed screens of lead.

It is as if one were fighting with infantry, cavalry and artillery; or as if one loaded a gun with shot of varying size; the *alpha* rays do not escape from the tube, the *beta* may penetrate the muscles at varying depths, the *gamma* go clean through; but all leave something of themselves—a part of their electric charge—and some, the *beta*, remain to undergo change, probably, as Ramsey says, to helium. This unquestioned lodgment of material particles in the tissues accounts for persistent favorable action for weeks and months after treatment, and indeed for some secondary outbursts of dermatitis, when all effects seem to have gone by.

EFFECTS ON PLANT LIFE

It is impossible to overlook the mysterious power of radium over plant life, in considering its action on animals. Who can define the difference in the vital force actuating both? Let us expose seeds to radium rays, some for two hours, some for four, eight, twelve and so on; plant them in rows, beside one row which has had no radium. Watch them grow. Soon the normal one will have grown several inches; those longest exposed will have grown only an inch. Between these limits an exact growth proportioned to exposure will be shown. In other words, the mysterious rays have devitalized or inhibited growth proportionately to their time exposure. If we expose the seeds two days they will never grow. Here, then, is one clue to the truth in using radium. We may decide, after this experiment, at the start of our work, that there is a definite time treatment in all use of this agent in surgery, and it remains for us to work it out for every variety of growth.

EFFECT ON EPITHELIAL STRUCTURES

Let us consider one of the most commonplace, but the most characteristic types of cell tumor, the common wart. I ask you to consider that we are to use a specific agent, and to dismiss from your mind all thought that surgery has many other agents destructive of this growth. We propose not to destroy it, but to make it destroy itself. A wart is a simple overgrowth of the cells of the papillary layer of the skin. It may appear anywhere on the body, even in most inaccessible places, under the finger nails, on the sole of the foot, tongue, lips, eyelids, vocal cords. Apply radium to it for half an hour, and it will slowly retrograde until in four weeks the parts are as if nothing had been there. No cicatrix marks the spot as when caustics are used. The disorderly cells have simply resumed their orderly life. Nothing has been done, but a short bombardment of electrons carrying negative electricity. The result is infallible, and prepares us to wonder whether other, more succulent cells than those in this horny layer of the skin, will react as well.

The epithelial layer of the skin seems particularly susceptible. The basal-cell epithelioma, even when massive, is just as ready to undergo retrograde change as the papilloma. Nothing more startling can be seen in surgery than to watch even a good-sized epithelioma slowly yield after one or two applications of a small tube containing radium, and, losing its combative energy, melt away, draw back its budding edges, lose itself in the normal structures, and having decayed away leave only healthy tissue behind.

Such a clinical picture is to be seen every day. And what has been done? The vicious cell growth has been shot through by swift moving particles, leaving something of themselves, probably, in the tissue which they pierce in their transit through space.

WHY TUMORS GROW

If we only knew why they grow! That is more of a mystery than radiant energy. There is logical evidence that in some forms of new growth the body cells have become worn out.

In elderly people we often see a crop of epitheliomas on various parts, notably the face and hands. Often these are secondary to senile keratoses. Both show failing vitality. But, paradoxical as it may seem, the weakened cells grow exuberantly instead of dying and undergoing atrophy. Is it not fair to suppose that healthy growth is sustained by a balance of energy maintained in each cell, the loss of which upsets the equilibrium of control, and disorderly growth ensues? What follows immediately on applying the rays of radium, supplying negative charges, is a return to health. If less than a correct dose is given the relief is imperfect or temporary. Hence we can say that we medicate these exhausted cells with their own tonic, the *elixir vitæ* of cell life.

If one desires to argue that a specific germ life may be actuating the diseased growth, we must answer that that cannot be disproved, as yet.

EFFECT ON GERM LIFE

Cultures of staphylococcus, colon bacillus and other bacteria grow under a thin lead protective, but are killed on the surface of a Petri plate where radium rays play on them. Moreover, a less than lethal dose changes their virulence. A *Staphylococcus aureus* will change to an *albus*. All are so modified that, it may be, the life forces of natural repair are given a chance to conquer. This opens up a field of study not yet pursued.

RESULTS OF TREATMENT

What has been accomplished in epitheliomas of all grades, ulcerated or not, when situated on the skin, is that a healing and disappearance of the growth promptly follows a correct dosage of radium rays. This I have seen endure in perfection from three to six years in several cases. In others a slight recurrence showing an insufficiency of the first dosage, is at once overcome by renewed treatment, not more surprising than that malaria will recur when too little quinin has been given.

If we could accomplish the same result on the epithelial cancer of the wet surfaces as on the skin we might rejoice. But no such conquest can yet be claimed. Epithelial cancer of the lip, tongue, tonsil, pharynx, inside of the cheek, esophagus, stomach, rectum and uterus, are still the *bête noire* of the surgeon in spite of radium. This generous admission has given rise to an attitude of supercilious criticism by some uninvestigating members of our profession, that radium after all is a weak agent, applicable only to a few superficial conditions, better treated by the knife. So far from this common cant representing the truth, I propose to show a growing interest has widened out its sphere of influence. Let us not forget that very small quantities have as yet been available to the general surgeon.

Now, however, in England, Germany and America, following the lead of France, the most searching in-

quiry is being instituted, prompted by rivalry, fortified by science and corrected by criticism.

During several years I have selected a few grave cases from my own clinic, and have had many advanced and wholly inoperable cases thrust on me by good surgeons.

Having accurate notes of every case and every application of radium made during seven years, I can summarize the total outcome of treatment of these groups briefly as follows:

SUMMARY OF RESULTS

Of the lip, I have failed to cure any case. Patients shown two years ago by French observers as seemingly cured by filtration of rays are now dead from recurrences, I am informed. Dr. Wickham, the greatest living authority, recently confessed sadly that he had as yet failed to cure permanently any case of lip cancer. Cancer inside the cheek grows as if not treated; the same is true of the tonsil.

Of lingual cancer one has to speak cautiously. First, because they must be differentiated from ulcerated or non-ulcerated papillomas of the tongue, which may simulate malignancy. Of the latter, I have promptly and permanently cured four, (a section of one had shown undoubted epithelial changes).

Second, because an ulcerated cancer of the tongue is increased by foul bacterial infection. This is modified and improved by radium treatment. I have seen a long, deep, fungating cancerous ulcer of the entire side of the tongue, referred to me by the late Dr. W. T. Bull as inoperable, so far recover as to heal and retrograde until all that remained were two small nodes on the side of the tongue, which were undoubtedly the original cancer masses, lost in the infected mass first presented for treatment. At this stage Dr. Bull (always most conservative) said it was wonderful. But the retrograde process never proceeded further, and it was not many months before the extension of the cancer pursued the usual fatal course.

Third, epithelial growths in the tongue are often complicated by old syphilitic taint. So also chronic ulcers of the lip and cheek, with leucoplakia, which will not yield to medication. Almost without exception, these yield to judicious use of radium, in part, and often wholly, with cures that have been watched from one to three years.

In considering malignant growths of the esophagus, stomach, rectum and uterus in one group, we are facing that which defies every resource of our art, for as yet radium has no complete conquest to offer that has come to my knowledge, unless retardation and temporary relief be so regarded. Experience as yet is limited and the field large. Conscientious efforts and close study may resolve some of the clouds that cover this mountain of horror and obscurity. Although I have no roseate picture to present, I can truthfully say that enough has been seen to stimulate hope. Certain it is that where cachexia and hemorrhage accompany the advanced condition, the former is apt to disappear and the latter to cease after free use of radium.

If there were needed further proofs of the specific curative action of radium on certain tumors, it can be demonstrated in two cases of pure round cell growth. One, heretofore reported, still excites my wonder.

CASE 1.—A tumor had grown on the lower eyelid of a man for a year; it occupied the central part and more than half the substance of the lid. It grew forward on the skin, upward and inward, to press on the eyeball. It engulfed the entire lid, beyond all semblance of edge or surface or skin. This purple growth had resisted faithful application of Roentgent rays for six weeks, and was still growing when presented to me to decide whether radium, or a plastic operation to create a new lid, was best. I laid a tube of radium on it an hour each day for four days. Then I waited. In two weeks shrinkage began; in four weeks it had half gone, and in eight weeks no trace of it was left.

Five years have gone by and to-day it is still impossible to say on which eye the tumor had been. There is a slight nick only on the sharp edge where a piece had been cut from the tumor for original microscopic study. Otherwise the edges of the lid are sharp and normal. The polished mucous surface and the skin are absolutely restored. The lashes have grown in.

In the original section made through the mass nothing but round sarcoma cells can be seen. Where were the original cells normal to the lid, the skin, the cartilage, the glandular structure, all engulfed by and apparently replaced by the neoplasm from which they have faultlessly reassembled?

Hand in hand with this instructive history of a cure, the only pure round-celled growth submitted to radium, one of even greater interest must be studied which lures on the surgeon and pathologist.

CASE 2.—Six months ago, a child of four years was brought to my office, exhausted by the presence of a tumor in the right half of the abdomen, apparently renal sarcoma. Exploration showed an inoperable tumor embedded in the side, extending from the liver to the pelvis and from the vertebræ to the ribs. Its estimated weight was over four pounds. I inserted eight hollow thin celluloid tubes into different parts of the growth, into two of which strongest radium was placed. The others were for the time "dummies." Every six hours a dummy was replaced by a radium tube, so that even radiumization was obtained through the mass. During the succeeding month rapid gain in health followed. In two months the child was walking and eating and apparently restored to fine health and color, with shrinkage of the tumor in three months to one-sixth its former size. At five months I again cut away a central piece for examination and inserted radium hoping to further destroy the growth. It is too soon to say that beneficial reaction may not follow, but extension in mesenteric lymphatics is progressing slowly and not now controlled by radium.

Examination of the first pieces of tumor removed before radiumization showed massive small-cell sarcoma, with only a few scattered nerve cells; while after three months no small-cell sarcoma tissue remains, but nerve cells only. This agrees with gross appearances. The first section was a highly vascular purple mass; the second revealed a pale, inert, entirely altered tissue. In brief, though radiumization seems to have caused retrograde change of all the round-cell sarcoma, there is left neuroma structure in what was a teratomatous type of growth.

In these two cases we have seen a selective and alterative action antagonistic to a special type of new growth. But we stand more amazed at its unquestionable specific action against another type of highly specialized but destructive tumors, the giant-cell, or myeloid sarcoma. Six years ago I reported a restoration to health—through the application of radium only—of a young man's jaw, which had been in part destroyed by a soft giant cell growth. That patient remains absolutely cured to-day, with complete return to solid bone and with teeth firmly fixed in it.

During six years I have treated fourteen cases of giant cell growth by radium; with uniform demonstration of its selective action in causing retrograde changes. The first eight treated during the first three years remain as cured, though two have died of other causes, one and two years after perfect cure. The remaining six are too recent to report yet as cured, but show such characteristic change as to be probably included in future reports. The first ten I have reported in a paper

read last winter.[1] Suffice it to say, a powerful and unique selective action against pure myeloid tumors can be seen when subjected to radium irradiation.

Again, there has been demonstrated a similar response, in a specialized type, of embryonic vascular tissue, nevoid growth. It is due to the assiduous and masterly work of Dr. Louis Wickham of Paris that several hundred cases of all forms of birth marks, from port-wine stains to deep angiomata, have been shown to yield results unparalled in surgery. Their shrinkage in size and return to a nearly normal color of skin, without destructive cicatrix (unless the treatment be overdone) has demonstrated in the hands of Wickham and De Grais a specific alterative and restorative action in this embryonic type of tissue, that adds another claim to the specific action of radium on endothelial growth, which shrinks the mass and obliterates without destruction of tissue. I have seen many of these beautiful results in the hands of these masterly French workers, which, however, will long challenge equality in less experienced ones.

EXPERIMENTAL

Finally a trial of this unique agent has been given in a large variety of morbid conditions, and necessarily in rather a desultory way, as leaders for research. It has been demonstrated beyond question that it exerts a beneficent action on many varieties of glandular hyperplasias, notably on some goiters. Two or three out of some fourteen remain cured from three to six years. Also, on parotid sarcomas, in which, of all surgical conditions, we need more efficient surgical help. In trachoma and obstinate vernal catarrh also there have been demonstrated some brilliant cures. In short, there has been shown the existence of a subtle force latent in radium, resembling that in Roentgen rays, but unlike it and supplemental to it, with specific action for certain cells found in specialized tumors, which causes retrograde degeneration and atrophy.

The cases are not yet sufficiently numerous nor long enough studied to classify in groups warranting definite promise of uniform results. The careful scientific study by four radium institutes now established in France, Germany, England and America promises ultimately to clear the atmosphere of doubt, and formulate definite rules guiding its correct usage.

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Teratoma of the Ovary with Carcinomatous Changes.—A solid ovarian tumor was removed from a child 12 years of age (Martland, *New York Path. Soc. Rep.*, December, 1909). Two weeks previous to admission the patient had sharp, stabbing pains in the abdomen, later becoming localized in the right side, accompanied by nausea and vomiting. A diagnosis of appendiceal abscess was made and the abdomen opened. The tumor was removed a week later. Adhesions to the abdominal wall and the omentum caused troublesome bleeding. The left ovary at the first operation showed no tumor but at a third operation was as large as an orange. The child died several weeks later with numerous nodular masses in the abdomen. On gross section a large portion of the tumor looked like myxomatous tissue. There were considerable areas of smooth muscle and many cysts lined with cuboidal and low cylindrical cells, containing blood or serum. In some parts typical glandular structures occurred, formed of a single layer of cylindrical cells. No cartilage, nervous tissue, fat, striated muscle or bone were found. After considerable study by the Pathological Society the above pathology was determined.

1. Radium as a Specific in Giant-Cell Sarcoma, Med. Rec., New York, Jan. 1, 1910, p. 1.

PURPURA CAUSED BY THE INGESTION OF THE IODIDS*

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PHILADELPHIA

Because of the numerous types of eruption that may be produced by the ingestion of the iodids the subject is fraught with the greatest interest. Very few lesions of the skin have not been caused, at one time or another, by small or large doses of iodin or its various salts. Hundreds of papers have been written on the subject as a whole or on some interesting phase of it. The literature is so large that I am compelled to limit my remarks to the eruptions of the purpuric type.

Although it is frequently difficult to ascertain accurately its past history in medicine, Coindet[1] was apparently the first to introduce iodin into the practice of medicine as a therapeutic agent. Ricord,[2] in 1839, mentioned various cutaneous eruptions that were caused by the ingestion of potassium iodid; the same author,[3] in 1842, referred to several cases in which he had seen the same drug produce a "veritable purpura hemorrhagica"; the purpuric eruption not having been mentioned in his first communication. Zeissl[4] stated that he had seen in very rare cases ecchymoses and telangiectases in the form of nevi, of the size of the head of a pin, produced by the administration of the salts of iodin. Cazenave[5] was the first to record the occurrence of bullous lesions, with sanguinolent serum, followed by ulcerations difficult to heal, caused by the ingestion of potassium iodid. The most complete papers written on the subject of iodism and the various eruptions caused by the absorption of iodin and its various salts have been compiled by Petitjean[6] and Bradley.[7]

I have been able to obtain references in the literature to eleven bullous and fifty non-bullous cases, all of the hemorrhagic type, exclusive of the two petechial cases reported in the present paper. Mora[8] and Welander[9] have also written papers on this subject, reporting cases of the purpuric type, but I have been unable to consult the articles.

HEMORRHAGIC BULLOUS CASES

Sex.—Four of the cases with hemorrhagic bullæ occurred in women (Pusey,[10] Elsner,[11] Broadbent,[12] Taylor[13]); five in men (Russell,[14] Gottheil,[15] Morrow,[16] Bumstead,[17] McGuire[18]); and two in children, the sex being unspecified (Hudelo and Lebar,[19] Hallopeau and Lebret[20]).

Age.—The youngest case reported of the hemorrhagic bullous type, occurred in a child of 10 years (Hallopeau and Lebret[20]); another developed under the age of 20 years (Hudelo and Lebar[19]); one patient showed the idiosyncrasy at 28 years (Bumstead[17]); another at 39 years (Broadbent[12]); one patient was attacked at 45 years (Gottheil[15]); another at 49 years of age (Elsner[11]); one at 50 years (Morrow[16]); one at 51 years (McGuire[18]); and the ninth, at 68 years of age (Russell[14]). The ages of two of the patients were not mentioned (Pusey,[10] Taylor[13]).

* Read in the Section on Dermatology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

Cause of Administration.—In four of the eleven cases, the drug was administered for syphilis (Bumstead,[17] Gottheil,[15] Hallopeau and Lebret,[20] Hudelo and Lebar[19]); in pneumonia (McGuire[18]); in Bright's disease (Broadbent[12]); for rheumatism (Russell[14]); for a "cold" (Elsner[11]); and in three cases the disease for which the drug was prescribed was unspecified (Morrow,[16] Taylor,[13] Pusey[10]).

Length of Administration and Quantity of Drug Given.—The quantity of the drug and the length of administration varied considerably in the eleven cases with sanguinolent bullæ; in some but a few small doses produced the outbreak while in others hundreds of grains of potassium iodid were ingested before the point of intolerance was reached. In Bumstead's[17] case the eruption appeared after taking three 20-grain doses of potassium iodid; the outbreak was noted in Taylor's[13] case after 1 dram had been ingested; hemorrhagic bullæ appeared on Elsner's[11] patient after nine doses of potassium iodid had been administered, grains four having been given every six hours; McGuire's[18] patient took a total of 20 grains of the ammonium iodid in 1¼-grain doses; the eruption appeared in Broadbent's[12] case after taking potassium iodid in 3-grain doses during a period of five days; Pusey[10] prescribed for his patient 7½ to 10 grains of potassium iodid three times daily; Russell's[14] patient took 15 grains of iodin in three days; Morrow's[16] patient received 900 grains of potassium iodid in the space of ten days; Gottheil[15] administered 100 grains of potassium iodid daily for six days; Hallopeau and Lebret[20] produced the eruption experimentally on giving 3 gm. of potassium iodid. The dose or the quantity of the drug prescribed was not mentioned by Hudelo and Lebar.[19]

Character of Eruption.—The eruption was multiform, chiefly, however, consisting of hemorrhagic bullæ in Morrow's[16] case. Gottheil[15] recorded the presence of hemorrhagic vesicles and bullæ. Hemorrhagic bullæ with subsequent ulcerations were noted in three cases (Taylor,[13] Russell,[14] McGuire[18]). Pusey[10] reported the occurrence of sanguinolent bullæ, ulcerative and gangrenous areas in his case. In Bumstead's[17] case purpuric spots, clear and hemorrhagic bullæ, and ulcerations were all present. Elsner[11] recorded the presence in his patient of hemorrhagic and clear vesicles and bullæ, wheals, and nodular lesions. Hallopeau and Lebret[20] reported a remarkable case, in which hemorrhagic vesicles and bullæ, macular petechiæ, infiltration plaques, papillomatous lesions, and callous areas were produced by the ingestion of potassium iodid. Hudelo and Lebar's[19] patient exhibited large ecchymotic areas, small petechiæ, hemorrhagic bullæ, and a tuberculid of an angiokeratoma type was also present.

Distribution.—The arms, the hands, the face and the legs were attacked in the cases of Broadbent[12] and Gottheil.[15] The lesions were limited to the face, the hands, and the forearms in Morrow's[16] and Elsner's[11] cases. The feet, the lower legs, the face and the hands were involved in Bumstead's[17] patient. Taylor[13] noted the eruption on his patient on the face, the arms and the gluteal region. The face, the shoulders, the groins, the back, and the scalp were attacked in McGuire's case.[18] The face, the scalp, the neck, the chest, the arms and the legs were involved in Russell's[14] case. Hudelo and Lebar[19] reported the involvement of the arms, the neck, the legs and the feet. The distribution was generalized in the case reported by Hallopeau and Lebret.[20] Pusey[10] did not mention the distribution of the eruption.

PURPURIC NON-BULLOUS CASES

Sex.—Ten cases occurred in patients of the female sex (Fournier,[21] Cruveilhier,[22] Silcock,[23] Walter Smith,[24] Morrow,[25] Janovsky,[26] Labat,[27] Waren Tay,[28] Barlow,[29] Raymond[30]); twenty-two developed in the male sex (Ringer,[31] Debuchy,[32] Robinson,[33] Bradbury,[34] Duckworth-Gee,[35] Bernart,[36] Fournier,[21] and Suchanek,[37] each two cases, Ricord,[3] Duffy,[38] Barton,[39] Neumann,[40] Petitjean,[41] Payen,[42] Lemoine,[43] J. H. Wilson,[44] Colcott Fox,[45] Abbe,[46] Hoening,[47] Vidal[48]); and the sex in eighteen cases was not specified (Mackenzie,[49] Petitjean,[50] Virchow,[51] Neumann,[52] Pernet,[53] two cases, Fournier,[21] twelve cases).

Age.—The youngest case reported occurred in a child of 5 months (Mackenzie[49]). Ringer[31] reported a case at 17 years; Janovsky[26] one at 22 years; Petitjean's[41] was noted at 23 years of age; Suchanek's[37] patient developed the eruption at 24 years; Duffy's[38] patient showed the outbreak at the twenty-fifth year; the case of Duckworth-Gee[35] developed at 29 years; four cases were recorded at 30 years of age (Fournier,[21] Neumann,[40] Colcott Fox,[45] Abbe[46]); Bernart,[36] reported a case at 31 years; Lemoine's[43] occurred at 32 years; Barton,[39] noted his case at 35 years; Walter Smith[24] observed his patient at 39 years; the outbreak developed in Barlow's[29] patient at the forty-second year; Labat's[27] case showed the exanthem at the forty-third year; the eruption appeared in Waren Tay's[28] patient at the age of 44 years; the outbreak in Suchanek's[37] second patient occurred at the forty-sixth year; the eruption appeared in Vidal's[48] case at 50 years of age; a case reported by Raymond,[30] developed at 53 years; Bradbury's[34] patient was 58 years old when the eruption appeared; the outbreak attacked Robinson's[33] patient at 53 years of age; Hoenning reported the case of the oldest patient (aged 64) in whom the eruption appeared. The age of the patients on whom eruption of petechiæ and ecchymoses developed were not mentioned by Fournier,[21] fourteen cases, Pernet,[53] two cases, Ricord,[3] Cruveilhier,[22] Silcock,[23] Petitjean,[50] Morrow,[25] Payne,[42] J. H. Wilson,[44] Neumann,[52] Virchow,[51] Debuchy.[32]

Cause of Administration.—The drug was administered for syphilis in eighteen cases (Bernart,[36] Fournier,[21] three cases, Cruveilhier,[22] Silcox,[23] Suchanek,[37] two cases, Walter Smith,[24] Petitjean,[50] Janovsky,[26] Payen,[42] Barlow,[29] Colcott Fox,[45] Abbe,[46] Hoening,[47] Vidal,[48] Mackenzie,[49]). It was given in the treatment of rheumatism in eight cases (Duffy,[38] Labat,[27] Lemoine,[43] J. H. Wilson,[44] Raymond,[30] Bradbury,[34] Ringer[31] Debuchy[32]). The iodid was given in one case for paralysis (Barton[39]); for leprosy in another (Pernet,[53]) for atrophy of the optic disc in a third (Waren Tay[28]); for uratosis in one case (Robinson[33]); and in another for cancer (Virchow[51]). The indication for the use of the drug was not specified in nineteen cases (Fournier,[21] twelve cases, probably given for syphilis, Duckworth-Gee,[35] Ricord,[3] Petitjean,[41] Pernet,[53] Morrow,[25] Neumann,[40, 52] two cases).

Length of Administration and Quantity of Drug Given.—Mackenzie[49] described a case in an infant of 5 months in which the eruption appeared in three-quarters of an hour, after 2½ grains of potassium iodid had been given. In Colcott Fox's[45] case the eruption developed after two doses of 5 grains each, of potassium iodid had been administered about six hours apart. Three 5-grain doses of potassium iodid caused the outbreak in the case reported by J. H. Wilson[44]. In Robinson's[33]

case potassium iodid was given in grain doses three times daily; the eruption occurred after six days of medication. The outbreak appeared in a few days in Labat's case[27] after giving 3-grain doses. Lemoine[43] prescribed 1 gm. of sodium iodid daily; the next day the eruption appeared, twenty hours after the drug was administered. Ringer[31] gave his patient 10 grains of potassium iodid three times each day; the rash appeared in five days. Waren Tay[28] produced the eruption on prescribing 1.5 gm. of potassium iodid daily. Petitjean[50] gave between 3 and 4 gm. of potassium iodid daily; the outbreak occurred in four days. Abbe[46] prescribed 10 grains of potassium iodid three times daily; the eruption appeared after two weeks' administration. Raymond[30] gave 50 cg. of potassium iodid in two doses daily; after ten days the dose was increased to 1 gm. daily; the outbreak occurred after 8 gm. of the drug had been ingested. In Vidal's[48] case 15 grains of potassium iodid were given three times each day; the exanthem appeared after the drug had been taken for three weeks. Barlow[29] ordered 1 gm. of the drug to be given daily; at about the third week the potassium iodid was increased to 1.5 gm. each day; two days later the rash developed. The eruption appeared in Janovsky's case[26] after 24 gm. had been administered; 2 gm. sodium iodid having been given daily. Hoening[47] prescribed a mixture of sodium and potassium iodids; 40 gm. of this combination were given in twenty days. Silcock[23] gave 10 grains of potassium iodid three times a day; the dose was increased after fifteen days to 15 grains three times daily; seven days later the eruption appeared. Duffy[38] prescribed for his patient 10 grains of potassium iodid three times each day; the dose was increased three weeks later to 15 grains three times daily; 2½ ounces of the drug were given; the outbreak occurred in one month's time. Suchanek[37] gave a total of 42 drams in one case and 23 drams of potassium iodid in the other. In Duckworth-Gee's[35] case 50 cg. were given daily; 6 gm., in all, were ingested. In Payen's[42] case the eruption appeared after two months treatment with the iodid of iron. The eruption occurred after administering potassium iodid for five days in Bernard's case.[36] Moderate doses of potassium iodid were given in Fournier's[21] three cases; the purpuric spots appeared in one week, five days, and a few days, respectively. The rash appeared after a few doses in Debuchy's case.[32] The outbreak occurred in Ricord's[3] case after potassium iodid had been given for fifteen days. After the drug had been given but a few days the exanthem appeared in the case reported by Walter Smith.[24] The eruption appeared on Barton's[39] patient in three weeks' time, small doses of potassium iodid having been prescribed. The dose of the drug and the length of administration were not mentioned in twenty of the cases (Cruveilhier,[22] Neumann[40, 51] and Pernet,[53] each two cases; Petitjean,[41] Bradbury,[34] Virchow,[51] Fournier,[21] twelve cases).

In a few instances the eruption appeared some days after the drug had been discontinued. Suchanek[37] recorded a case in which the eruption appeared eight days after the iodid had been stopped. In the hemorrhagic bullous case reported by Morrow[16] the eruption did not reach its height until five days after the potassium iodid had been intermitted. In the case with hemorrhagic bullæ recorded by McGuire[18] the lesions continued to appear for ten days after the drug was discontinued. Broadbent[12] also recorded the fact in his hemorrhagic bullous case that the eruption continued to appear for six days after the potassium iodid had been stopped. The purpuric exanthem continued to appear for eight days in one of Suchanek's[37] cases, and for twenty-six days in the other. Outbreaks of purpura from the iodid continued for ten days in Janovsky's[26] patient, and for three weeks in Raymond's[30] case.

Type of Eruption.—In all of the non-bullous cases, except five, the eruption was entirely purpuric in type. The lesions were mostly from small to large pinhead in size; in Hoening's[47] case, however, some of the ecchymoses were one-quarter dollar in dimensions. Duckworth-Gee[35] described, in the case reported, a herpetic eruption with a purpuric areola. In Neumann's[40] patient the eruption was chiefly papillomatous or pustular; some of the lesions were petechial. In one of the two cases reported by Petitjean[41], with purpuric lesions, the predominant type consisted of furuncles and pustules. Vidal[48] noted in his case a papular outbreak on the trunk and a purpuric eruption on the legs. The outbreak in Debuchy's[32] case consisted of a vesicular as well as a petechial eruption; an eczema was also present.

Distribution.—The eruption was, in a great majority of the cases, localized to certain portions of the body, chiefly the lower extremities. The eruption was generalized in Hoening's[47] case. The outbreak was generalized, excepting the chest, the back, and the hairy scalp, in Neumann's[40] patient. The upper and lower extremities and the shoulders were attacked in the case reported by Mackenzie.[49] There was extensive involvement in Lemoine's[43] case; the thighs, the abdomen, the lumbar region, the chest and the arms are the areas attacked. The entire face, the forearms and the neck were the areas of predilection in Duckworth-Gee's[35] patient. The scrotum, the thighs and the legs were involved in Bernart's[36] case. The upper and lower extremities were attacked in two cases (Janovsky,[26] Bradbury[34]). The forearms and the lower portion of the legs were involved in three cases (Colcott Fox,[45] Abbe,[46] Robinson[33]). Raymond's[30] patient showed the lesions distributed on the arms, the hands and the legs. The hands and the legs were the seats of attack in the case recorded by Debuchy.[32] J. H. Wilson[44] noted the distribution in his patient on the lower legs, and the dorsum of the feet. The eruption was limited to the lower abdomen in one case, and attacked the lower abdomen and the extremities in the other case of Suchanek's.[37] The lower extremities alone were attacked in eight cases (Cruveilhier,[22] Silcox,[23] Barton,[39] Waren Tay,[28] Vidal,[48] Ringer,[31] Petitjean,[41, 50] two cases). The eruption was limited to the lower portion of the legs in twenty cases (Duffy,[38] Ricord,[3] Walter Smith,[24] Payen,[42] Labat,[27] Barlow,[29] Fournier,[21] fourteen cases). In one of Fournier's[21] fifteen cases, the outbreak was not only found on the lower legs but lesions, purpuric in type were also scattered on the trunk. The distribution of the eruption was not specified in five cases (Morrow,[25] Neumann,[62] Virchow,[51] Pernet,[53] two cases).

Mild symptoms of iodism preceded or accompanied the eruption in several of the cases, notably in those reported by Petitjean,[50] Janovsky,[26] Barlow,[29] J. H. Wilson,[44] and Debuchy.[32] Severe symptoms of iodism were observed in Mackenzie's[49] and Raymond's[30] fatal cases.

Edema of the glottis was caused by the drug in two of the cases (Petitjean[50] Neumann[52]). Several authors have referred to edema of the glottis caused by the ingestion of potassium iodid. Nelaton,[54] Lawrie-Adair,[55] and Fenwick[56] have reported cases of this character. Weist[57] recorded an interesting history; a woman of 28 was instructed to take 50 grains of potas-

sium iodid a day; eleven hours after the first dose was administered a generalized edema developed.

Mucous Membrane Involvement.—The mucous membranes were attacked in two of the hemorrhagic bullous cases. Hemorrhagic bullæ were found on the tongue and the roof of the mouth in the case reported by Taylor.[13] Russell[14] recorded the occurrence of bullæ filled with blood in the nares in his case. The mucous membranes were attacked in five of the non-bullous petechial cases. Purpuric spots were noted on the left conjunctiva in Duckworth-Gee's[35] patient. A hemorrhagic eruption was present on the gums in the patient of Suchanek.[37] Numerous ulcers were found on the walls of the stomach near the pylorus in Neumann's[52] patient, supposedly caused by the ingestion of potassium iodid. The roof of the mouth exhibited petechiæ in Hoening's patient,[47] and on the hard palate in the one reported by Mackenzie.[49] Milain[58] described a case in which ecchymotic spots were found on the palate, which appeared on starting the drug and disappeared on stopping the same. There was a papulopustular eruption on the face, the back and the limbs caused by the potassium iodid, but there were no purpuric lesions on the cutaneous surface.

Hemorrhage from Mucous Membranes or Organs.—Boinet[59] in 1865 mentioned the fact that the ingestion of iodin may cause hemorrhage from the lungs and the intestines. Rodet[60] recorded an interesting case in which a man of 35 was attacked by hemoptysis whenever potassium iodid was given. DeBolze[61] reported an instance in which a blood-tinged cough was produced whenever the iodids were given; no signs of phthisis were present. Lindsay[62] referred to a case in which a woman of 58 after taking a few doses of potassium iodid developed the catamenial flow, which had been absent for twelve years. This flow continued for the entire week during which the drug was given. The administration of the iodid also caused symptoms of iodism and a bullous, non-hemorrhagic eruption.

In the present series two of the hemorrhagic bullous cases and five of the petechial, non-bullous cases exhibited phenomena of this character. Hemoptysis was noted in Broadbent's[12] case. Elsner's[11] patient vomited blood and passed the same by the rectum. Epistaxis and bleeding from the gums were noticed in the case reported by Duckworth-Gee.[35] Cerebral hemorrhage was present in Neumann's patient; whether caused by the drug or from some other condition is not clearly stated by the author. Epistaxis was caused by the drug in the cases recorded by Janovsky,[26] Bradbury[54] and Abbe.[46]

Organic Disease Present at the Time of Administering the Iodid.—Heart or kidney disease, one or both, were present at the time the drug was administered in four of the cases which developed the hemorrhagic bullous lesions, and in six of the non-bullous cases. Disease of both the heart and kidneys were found in Morrow's[16] and Gottheil's[15] patients. Disease of the kidneys was found in the case recorded by McGuire.[18] Broadbent's[12] case exhibited nephritis, pericardial trouble and a pleuritic condition of the lungs. Nephritis was discovered in the two cases reported by Neumann[40, 52]. Valvular disease of the heart was present in the case recorded by Duffy.[38] Nephritis and valvular disease of the heart were found in Lemoine's[43] and Pernet's[53] cases. Pericarditis, congestion of the lungs, aortic and mitral lesions, hypertrophy of the heart, and disease of the kidneys were all noted in Duckworth-Gee's[35] patient.

CASES OF THE AUTHOR

CASE 1.—Helen L., aged 27, born in Germany, came to the skin dispensary of the Pennsylvania Hospital, April 13, 1906. There were no derangements of the heart or kidneys present, and her past history was negative. A few weeks previous to her visit to the dispensary she obtained a mixture at a drug store for pains in her muscles and joints. The patient stated that the mixture contained potassium iodid. After taking the preparation for some weeks, ten days before coming to the dispensary an eruption appeared on the lower extremities. The lesions were limited to the lower extremities, extending from the upper thighs to the ankles, and consisted of bluish and reddish-blue, pinhead to split-pea-sized macules, from which the color could not be pressed. The eruption disappeared a few days after stopping the medication. To prove whether or not the iodid was the etiologic factor, one week after the disappearance of the lesions the drug was again given. Potassium iodid was given in 10-grain doses three times daily; on the second day 11 grains were given at a dose, on the third, twelve grains three times during the day, and the administration was continued in the same ratio. When the dose had been gradually raised in this manner to 17 grains three times daily, a purpuric eruption developed with the same characteristics and distribution as the first outbreak, previously described.

CASE 2.—Mary H., a very light mulattress, aged 40, born in North Carolina, came to the skin dispensary of the Pennsylvania Hospital, July 13, 1906. The patient had previously been treated in Dr. Morris Lewis' ward at the Pennsylvania Hospital for aneurism and aortic insufficiency. No history of rheumatism could be obtained. The urine contained no albumin or casts. The patient was given 10 grains of potassium iodid, three times a day. The drug was started April 15 and continued until the patient's visit to the dispensary. A few days before she came to the skin dispensary the eruption appeared on the legs. The purpuric lesions were large, pin-head in size and limited to the tibial aspect of the lower legs. The eruption disappeared a few days after the drug was stopped. One week after the disappearance of the lesions the drug was again given. Five grains of potassium iodid were administered three times daily. After the drug had been taken for twenty days the purpuric eruption again appeared on the same areas as previously exhibited the outbreak.

Potassium iodid is not the only salt of iodin that may produce an eruption, as the outbreak was produced in Lemoine's[43] patient by sodium iodid and also in the case reported by Janovsky.[26] The iodid of iron was causal in Payen's[42] case. The eruption was caused in Hoening's[47] patient by a combination of the sodium and the potassium iodids. Both the ammonium and the potassium iodids, separately, produced the outbreak in Duffy's[38] and Ringer's[31] cases. The latter writers however, reported negative results with the sodium iodid.

The same individual may have an idiosyncrasy to more than one drug. Raymond[30] found that his patient had also a marked intolerance for 5 cg. of santonin, and for 2 gm. of sodium salicylate.

Pathology.—Tilbury Fox[63] believes in the follicular and sebaceous gland origin of all types of iodid eruption. Fox and Gibbes[64] found that the small arteries were blocked and the vessels were affected in every section examined by inflammatory changes. Engman and Mook[65] found in the examination of papules, pustules and macules from numerous cases of iodid eruption that the sebaceous glands and the follicles were not primarily affected by the drug, practically all of the changes occurring in the neighborhood of the blood vessels. Thin[66] found in the acne form of eruption, caused by the ingestion of potassium iodid, limited edema with congestion of the vessel; in the bullous or pustular form an effusion of serum with more or less of the formed elements of the blood, and in the pur-

puric type destruction of the wall of the vessel and hemorrhage. Thin[66] points out the tendency of iodin when present in the blood current to attack special points of the vessels, thus explaining all the varieties of eruption caused by iodin. As an explanation of the purpuric eruption he suggests that a portion of the vessel is so suddenly and completely destroyed that the local changes are limited to effusion of a small quantity of pure blood, and to plugging of the vessel. The specimen examined by Thin[66] showed the changes limited to a small part of the vessel, which was dilated at that spot and blocked by coagulum. Duckworth and Harris[67] found the blood vessels were very numerous in all of the specimens examined. The sebaceous gland origin of the various types of iodid eruption can probably be excluded, as most authorities do not agree with the original findings of Tilbury Fox.[63] As Biesiadecki[68] and others have never been able to demonstrate the presence of either sebaceous glands or lanugo follicles on the palms of the hands, and as Duhring[69] and Hyde[70] have each reported eruptions from potassium iodid on this area, the sebaceous origin of the outbreak is evidently disproved.

Absorption and Elimination.—Arnozan and Carles[71] have gathered together in an excellent paper the facts regarding the role the leucocytes play in the absorption of certain medicines, including iodin. The latter phase of the subject has been particularly studied by Stassano and Bourcet.[72] The leucocytes absorb the iodin and carry this drug, with which they are charged, to different tissues or organs of elimination. The drug absorbed may undergo various changes in the leucocytes, being transformed by the action of various ferments which these cells contain. The drugs may be stored by these cells at various points and thus give rise, under various circumstances, to a pathologic effect. Ménière.[73] after a great many experiments, concluded that the time required for the absorption of the salts of iodin and their elimination by the salivary glands is on an average from eight to ten minutes; when the stomach is full the elimination is retarded from thirty to forty minutes. If the stomach is absolutely empty and the potassium iodid is given in a warm liquid of some stimulating power, such as tea, elimination may be detected in the saliva in from two to three minutes. According to this same investigator absorption of this drug occurs most rapidly by the bronchial mucous membrane; it takes slightly less than double the time for absorption to occur by the stomach and the esophagus as by the bronchial mucous membrane. Quincke[74] found the presence of iodin in the small intestine, the saliva, the urine, the serum of the blood and in the aqueous humor, but not in the stomach or the large intestine, one and one-quarter hours after a hypodermic injection of the drug had been given; while it took almost two and one-half hours to produce the same results after ingestion through the stomach.

Iodin has been found in the urine in several of the cases in this series, Janovsky[26] noted the reaction for the drug for six days after the medication had been stopped; iodin was found in the urine in Pusey's case.[10] Berg[75] gave a venous injection of from one hundred to one hundred and thirty grains of potassium iodid in animals and iodin was found in the urine after fifteen minutes had elapsed. Marshall[76] recovered 265 grains daily in a case of Wood's, in which 360 grains of potassium iodid were taken daily. According to Sée,[50] the reaction to the drug may exist in the saliva after it has disappeared from the urine.

Adamkiewicz[77] mixed the pus from the pustules caused by the ingestion of the iodid with starch and added a few drops of very dilute nitric acid, and obtained the reaction of iodin. The test for iodin in Gottheil's case proved negative. Engman and Mook[65] in a valuable series of experiments on numerous patients with various types of iodid eruption proved the elimination of iodin through the skin. They found a positive reaction of the pus in every case examined, iodin being distinctly present. Skin free from any lesions, although an iodid eruption was present on other portions of the body, was blistered by them in two cases and the serum from these blisters was investigated. In each instance iodin was readily discovered, thus proving that iodin occurred in chemical combination in all the tissues of the body. Taylor[78] believes that iodin is eliminated in certain cases by the sweat-glands, citing a case to prove this assertion.

Prognosis.—The administration of the iodids, particularly in large doses, to those individuals who have a strong idiosyncrasy to the drug, or in cases with organic disease of the heart or the kidneys, is frequently a dangerous procedure. Seven out of the eleven hemorrhagic, bullous cases ended fatally, and two of the non-bullous, petechial type. Elsner's[11] patient died five days after the drug was started! Russell's[14] patient succumbed on the tenth day after the drug was first given. The patient whose case is reported by Pusey,[10] died ten days after the appearance of the eruption. The termination was fatal in Gottheil's[15] case, seventeen days after the medication was commenced. Broadbent's[12] case ended fatally three weeks after the drug had been given on a second trial. Morrow's[16] and McGuire's[18] patients died six weeks after the drug was first administered. Mackenzie's[49] case proved fatal sixty-eight hours after one dose, 2½ grains of potassium iodid, had been given to a child of five months. In Duckworth-Gee's[35] case, the patient died on the tenth day after the drug had been started.

Fournier[21] has had more opportunity to study purpura caused by the ingestion of potassium iodid than any other observer, as he has reported in one series fifteen cases. According to his observations, if the drug is given in the same moderate dose over an uninterrupted period the purpuric eruption produced by the potassium iodid is apt to lessen in severity until there is an almost complete disappearance, even while the small dose of the drug is continuously given; if, however, the dose of the drug is considerably increased, a fresh outbreak will occur which is usually not so severe as the first attack. If the drug is stopped for a few weeks, and the same small dose is given as in the first instance, an eruption will again be produced but the outbreak is usually not so severe as the lesions first caused by this small dose. The experience of Fournier[21] has coincided with the observation of more recent writers on the subject. A certain tolerance, therefore, seems to be formed to the drug in a great many individuals who are susceptible to this medication, but the tolerance is but transitory, as the increase of the dose, while the drug is being taken in moderate quantities, will produce a fresh outbreak, or if the drug is stopped for but a few days the tolerance is lost and the original dose, or even a smaller quantity, will again produce the eruption.

The decreased dosage causing the eruption is well exemplified in the bullous, non-hemorrhagic case described by Besnier,[79] in which the outbreak was first caused by 2 gm. of potassium iodid, on a second occa-

sion by 1 gm. and a third time by 10 cg. The eruption was first produced in Duffy's[38] case by 2½ ounces of potassium iodid, and on another occasion by 15 grains. In Abbe's[16] case the eruption was produced on six different occasions, each time less of the drug being required to cause the outbreak; the eruption first appeared after 10 grains of potassium iodid, three times daily, had been given for two weeks; the fifth and the sixth attack was caused by three and by two 5-grain doses respectively. The eruption was at first caused in Raymond's[30] case by giving 8 gm. of the drug, in divided doses, the second outbreak was induced by administering 3 gm. in five days. On the first occasion the exanthem appeared in Ringer's[31] case after 10 grains of potassium iodid three times each day had been given for five days, the eruption was reproduced by prescribing four 10-grain doses of the drug. The outbreak first occurred in McGuire's[18] case after 20 grains of ammonium iodid had been given; on a second occasion 5 grains sufficed to produce the hemorrhagic bullæ. The administration of 1.5 gm., of potassium iodid in Waren Tay's[28] patient produced the eruption on five different occasions in nine weeks. In one of my cases the eruption was reproduced by one-half of the dose of the drug and in one-quarter the length of time required for the first outbreak.

After a careful study of sixty-three cases of purpura caused by the ingestion of potassium iodid, eleven being of the hemorrhagic, bullous type, I feel justified in making two provisional groups of these eruptions. In the first group may be placed all those cases in which there is some organic disease, some lowered condition of the general economy which makes the individual more susceptible to the effects of the drug, and those with a strong idiosyncrasy to the iodid. The bullous eruptions of the hemorrhagic type and the petechial cases with a somewhat generalized outbreak should be classed in the first group. In the second group the patient is found in the best of health, and there is absolutely no way of explaining the outbreak except on the hypothesis of a mild idiosyncrasy to the drug. In this latter group should be placed the purpuric cases with a very localized distribution, which have the tendency to remain limited, particularly to the lower portion of the legs. Fournier's[21] fifteen cases should be taken as the type of case belonging in the second group. There is probably no doubt that in the localized cases of purpura, caused by the iodids, in which small doses of the drug have been administered, the eruption may be made general and severe if the drug is continued in very large doses over a long period of time. The drug should be used with the greatest care in those individuals with some organic lesion, in whom the general condition is below par, and as a safeguard the beginning dose should be small, as a strong idiosyncrasy to the iodid may be present.

SUMMARY

Purpuric eruptions caused by the ingestion of the iodids may be divided into two provisional groups.

The first group includes the extensive petechial and hemorrhagic, bullous cases, which occur in those individuals with organic disease, particularly of the kidneys or the heart, or with a lowered condition of the general economy, making them more susceptible to the effect of the drug, or with a strong idiosyncrasy to the same.

The second group includes all cases with a localized distribution, particularly those in which the eruption is limited to the lower extremities or the lower legs, which occur in those individuals in perfect health, and which can be explained only on the theory that a mild idiosyncrasy to the iodid is present.

Sex and age have nothing to do with the occurrence of the eruption, although most of the cases developed during middle life, and a considerably larger percentage of males were attacked than females.

The drug was administered in twenty-two of the sixty-one cases for syphilis, for rheumatism in nine cases, and in the remainder in numerous other conditions, none of which apparently exerted any predisposing influence.

The quantity of the drug given and the length of administration varied so markedly that an average dose or the length of time of continuance cannot be stated, the personal element alone deciding the question of an eruption.

The eruption was chiefly of one type, either the petechial or the hemorrhagic bullous, although in a few cases other forms of iodid lesions were present.

In the hemorrhagic bullous cases, although in several the eruption was somewhat generalized, the face and the extremities were mostly involved, particularly the face and the arms.

In the petechial type the eruption in a great majority of the cases was limited to the lower extremities, particularly the lower portion of the legs; in a few cases, however, the outbreak was somewhat generalized or noted on the upper as well as the lower extremities.

Mild symptoms of iodism were present in a few cases, and severe reaction to the drug was noted in two cases. Edema of the glottis was found in two instances.

Lesions were found on the mucous membranes in a few cases; hemorrhages occurred from the mucous membranes or from various organs in a few others.

Organic disease of the kidneys and the heart were found in but few—ten out of sixty-one cases.

The various salts of iodin are all capable of causing a purpuric eruption.

The pathologic changes of the skin were noted in the immediate vicinity of the blood-vessels and in the walls of the vessels themselves.

Iodin is rapidly absorbed by all mucous and serous surfaces and rapidly eliminated, chiefly by the kidneys and also through the skin itself. The leucocytes play a distinct rôle in the absorption of the drug.

Hemorrhagic bullous cases, of extensive distribution, are frequently fatal, seven out of the eleven in this series ending fatally.

Petechial, non-bullous cases rarely terminate in death, unless there is marked disease of the heart or kidneys or a very extreme intolerance to the drug; two out of the fifty cases of this type ended fatally.

In conclusion I wish to express my thanks to Dr. Charles N. Davis for the privilege of reporting the two cases and to make a plea for smaller doses of the iodids.

332 South Seventeenth Street.

ABSTRACT OF DISCUSSION

DR. J. A. FORDYCE, New York: I do not think we ought to allow this occasion to go by without deprecating the reckless way in which potassium iodid is given, not only by the general practitioner, but by the specialist. In syphilis it is frequently given in doses of several hundred grains daily, and in the majority of those cases the same benefit could be derived from thirty, or, at most, one hundred grains daily. We are entirely too reckless in the administration of the drug, and have overlooked the fatalities that have been reported from its excessive use. In some instances, these harmful effects are due to

excessively large doses; in others, to an over-susceptibility on the part of the patient. Dr. Knowles' paper also emphasizes the importance of looking into the condition of the eliminative organs before we resort to large doses of potassium iodid.

DR. HOWARD FOX, New York: In connection with this rare form of eruption due to the ingestion of potassium iodid, I should like to call attention to another rare form, a case of which I recently presented before the New York Dermatological Society. The eruption was a very extensive one of the purely bullous type. When the patient, a colored girl of 12 years, came to the Vanderbilt Clinic, she presented a number of unpigmented circinate lesions that we were disposed to regard as dermatitis herpetiformis of the circinate and bullous type. The patient gave a history of having taken five weeks previously a bitter medicine in doses of ten drops three times a day for one week. At the suggestion of Dr. George T. Jackson she was given iodid of potash, ten drops three times a day. After the second dose an eruption consisting of large, tense, clear bullæ appeared on the whole body, more especially on the legs. Iodid was found in the contents of the bullæ and in the urine. The case is mentioned as an unusual form of an eruption produced by potassium iodid in an extremely susceptible patient.

DR. F. C. KNOWLES, Philadelphia: In reference to the possibility of an eruption being produced by small doses of potassium iodid, I would refer to the case of Mackenzie, who described a case in an infant of five months where a small dose produced an eruption in 45 minutes, and the child died ten hours later.

DERMATITIS EXFOLIATIVA *

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The name "dermatitis exfoliativa" may be given to any inflammatory disease of the skin which has for its most prominent features, inflammation and exfoliation of the epidermis. There may be features, however, histologic, etiologic or otherwise, which can be used to advantage in designating some of the types. Brocq recognizes seven types of exfoliative dermatitis. It may not be necessary to make as many distinct divisions as this, since several of these types may have the same or similar etiologic factors and differ only in degree of severity; still, we must acknowledge that there are as many clinical types as he describes.

The case I am about to report is evidently related to the more frequently seen cases of erythema scarlatiniform. Still I think that it would be a mistake to consider them identical.

The type known as "dermatitis exfoliativa neonatorum" or Ritter's disease, is a distinct type, and is generally conceded to be due to an infection at or near the time of birth.

The distinct type described by Hebra as "pityriasis rubra" is generally considered a fatal disease, but from time to time we have reports of recoveries of cases in all respects resembling this type, with the exception that they recover. There seems to me no adequate reason why they should be put in a different class. Frank Woodbury,[1] reports two cases, which he considers identical as examples of this disease. One of the patients died and the other recovered.

We have many other diseases which tend to a fatal termination in the severe cases, but in the milder cases of the same kind the patients recover. Why should we not consider this disease capable of the same variation and conclude that, while many patients die, others recover?

REPORT OF CASE

Patient.—B. K., a girl, 8½ years old at the time of first appearance of this skin disease, in April, 1907; her family history was negative. Her father, mother and two sisters are healthy. The cutaneous history of the family is negative. The patient had been healthy up to the time this disease made its appearance. Her skin was fair, hair inclined slightly to red, temperament nervous in mild degree, rather slender and of medium height for her age. She lived with her parents on a farm, where sanitary conditions are supposed to be good.

Present Illness.—The disease made its appearance as spots of reddened, rough skin, inclined to scale. These spots ranged from the size of a split pea to that of a silver dime; some were circular, while others were irregular in shape. The distribution was general over the body and extremities. At one or two places several of these lesions coalesced, forming irregular patches. Desquamation was in small scales. There must have been decided itching, as the parents say the child scratched until the blood flowed. Even while asleep, she scratched, which is indicative of severe itching. Her appetite was irregular and health not up to par. The parents of the child supposed this to be a case of multiple ringworm of the body, and it was treated as such. No physician was called at that time. In August, 1907, she had typhoid fever. This ran a reasonably mild course, the temperature at its highest being about 103 F. While the fever was present the skin disease disappeared completely, just as we see sometimes in psoriasis. When she recovered from the typhoid fever about September 15 the skin lesions returned, apparently about as they were before the typhoid made its appearance. They were the same red, slightly scaling spots as at first. The lesions were more numerous on the thighs than in other localities, but they were quite general in their distribution. This condition continued all through the winter, and in the spring of 1908 the family physician was called in to see the case. He considered it a case of disseminated ringworm and treated it accordingly for the next six months. There was no permanent improvement, but an increase in size of the lesions with more scale formation.

Examination.—When I first saw the case, Nov. 20, 1908, there were only a few of the smaller scale lesions present, and these were scattered about over the trunk and extremities without definite grouping. The larger ones had grown in size, ranging from 1½ to 3 inches in diameter, and were circular or oval in outline, not noticeably elevated above the surrounding skin, and had an erythematous base with thin papery scales covering the surface. At two or three places, several of these lesions had coalesced and formed irregular patches, but most of them were still discrete and were scattered promiscuously with the thickest distribution on the thighs. The distribution was about equal over the flexor and extensor surfaces. The lesions were sharply marginate.

Course of Disease.—My first impression was that I had an atypical psoriasis to deal with. An ointment was given, containing small quantities of salicylic acid and resorcin, in addition to internal treatment, and the patient was requested to return three weeks later. Promptly in three weeks the patient was brought to see me again. The change in these three weeks was great. Instead of scattering lesions, the entire skin was involved. I was informed that this involvement came, not by formation of new patches, but by extension of those present before. The whole process took on a more active appearance; the skin became brighter red and somewhat thickened. The process was extending up over the face and scalp, where it had not appeared before. The worst of the inflammation, however, all through the disease, was on the thighs and trunk. The face and scalp suffered least. This extension was accompanied by chilly sensations and fever. This begun about December 1. The temperature was usually not high, but for the next two months it seemed to be always somewhat elevated, ranging from 99 to 103. There was no particular time for the increase in temperature, but the high points were just as likely to be in the early morning as late in the day. The discomfort of the patient, due to chilling, was quite marked,

* Read in the Section on Dermatology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

1. THE JOURNAL A. M. A., 1899, xii, 81.

especially when circulating air came in contact with the denuded surfaces. Desquamation soon followed the extension of the inflammation. This desquamation left large patches of raw, oozing, sensitive skin. This was so general that the underclothes became at times saturated with the serous fluid. The patient did not complain of itching, but of a burning sensation, which she tried to relieve by rubbing. Desquamation occurred in small scales over the body and extremities. The palms and soles desquamated in large pieces. Toward the end of the disease the nails from the small toe on both feet desquamated also. The other nails were rendered rough and ridged, but remained intact. The urine was examined at several different times and nothing abnormal was found. The heart, lungs, liver, spleen and all other abdominal and pelvic organs were normal as far as could be ascertained. No blood-count was made. The inflammatory process subsided gradually, the oozing grew less by degrees until it ceased altogether, the desquamation gradually disappeared along with the erythema and the skin became normal in appearance again. This point was reached about the end of April, 1909, about five and one-half months after I first saw the case. During the course of the disease the child had lost flesh until the bones became prominent. Now her appetite returned and the lost flesh was regained and more. A year from full recovery of this patient she remained perfectly well, has grown normally and has a skin as perfect as any child. In fact, there is no trace of the old trouble.

Treatment.—This consisted, first, of the application of soothing applications to relieve the disagreeable sensations; oily preparations seemed quite effective and agreeable to the patient; second, of tonic remedies internally. Various tonic remedies were used, as seemed indicated. Along with this I tried the efficacy of quinin. I realized that this case was different from those in which Mook[2] seemed to secure so much benefit, but gave it a trial. The benefit received from this treatment was not great, but nevertheless the child's parents claimed some improvement from it. I could not say that treatment accomplished anything in a specific way; it merely supported the patient's strength and palliated the suffering, while Nature produced a cure.

I do not believe that the causative factor in all cases of this type is the same. As in scarlatiniform erythema, which it resembles, the causes may be various. In the case just reported I thought at first that the general inflammation might be due to the local application of resorcin or salicylic acid. It is true that these were applied in mild strength and would have required a skin with an idiosyncrasy to have produced the inflammation.

The involvement of the entire skin, even where none of the ointment was used, made it apparent that this was not the cause. Also we see that the inflammation continued and grew worse after the local applications were withdrawn. The continuation of the inflammatory process for three months before beginning to abate would indicate the continuation of the cause for that length of time. That this cause was a toxic agent generated within the body I believe to be the rational explanation of the trouble.

ABSTRACT OF DISCUSSION

DR. FRANK C. KNOWLES, Philadelphia: In the *Journal for Cutaneous Diseases* for January, 1910, Dr. John T. Bowen, of Boston, published a paper in which he described seven cases of dermatitis exfoliativa, five ending fatally. In a previous paper, presented to the American Dermatological Association in 1902, he divided these cases into four types. The first was the recurrent desquamative scarlatiniform dermatitis; this form might occur after the ingestion of drugs. The second was the dermatitis exfoliativa of Wilson; the third occurred as a sequel to psoriasis, eczema, lichen planus, etc., and followed the administration of certain drugs, such as belladonna, mercury and quinin; and the fourth form was the pityriasis rubra of Hebra. I have seen a few cases of dermatitis exfoliativa, and recently, since the first of the year, I have seen a generalized case which followed the administration of quinin, and another in which the eruption appeared following the local use of a mercurial ointment. In this case the application was followed by an immediate generalized exfoliation of the skin.

2. Jour. Cutan. Dis., xxvi, 408.

THE NERVOUS UNFIT*

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It may have been the original intention of our Creator that all human creatures should start the race of life with the same equipment of physical and functional strength, and many generations back in the history of the human family such may have been the case. The profession would be relieved of an ever-present problem if all of God's favored creatures acted and reacted alike to the responsibilities of life, to the daily fight for bread, to the wild chase after wealth, to the exacting demands of social responsibility with all its joys and sorrows, with all its pleasures and disappointments, with all its cares and comforts, with all its successes and all its failures.

That so many fall short in being able to stand the tension of life's responsibility and fail to fill their measure of work at the end, is due to one of the following:

1. The development of some local or general diseased condition that puts an end to their existence.

2. Some diseased condition, local or general, resulting not in death, but in incapacity.

3. Incapacity without local disease being clinically present. The third class may be divided into (a) those overtaken by mental incapacity, and (b) incapables—mentally sound.

It is to the latter class that I beg to direct attention. The cases of this incapacity, in mentally sound persons, without any local pathologic condition being clinically present, may vary in shades all the way from those very slightly affected to the "ne'er-do-weel" or the chronic bedridden invalid who has long since abandoned all effort except that of complaint.

Some of these cases seem to be of congenital origin; consanguinity or inebriety of parents, or the presence in the parents of other neuroses or psychoses, having all been charged with causal responsibility.

Our social and educational systems are perhaps answerable for many of the cases of acquired incapacity. The more strenuous and exacting the occupation, the greater and the less interrupted the tension on the nervous energies, the more numerous the victims. The mad, merciless mania for money; the pitiless competition for preferment, that our neighbors may not appear better than ourselves; the great and criminal lack of individual attention to students in educational institutions; the too early exactions made of the nervous to the detriment of the physical side of the growing child; the unpardonable sin of our ever recurring written examination with all its attendant evils, and many more might be mentioned as causes of its acquisition. Neither age nor race, neither sex nor social condition seems to afford immunity.

The good housewife seems to be the sufferer in the greatest number of instances, and well may she plead justification. The continual grind of domestic routine, the determination of what to have to eat and how to have it prepared, three times a day, every day in the year, and

* Read at the meeting of the Tennessee State Medical Association, at Memphis, April 13, 1910.

then to begin all over again for another year, and for a whole lifetime; the ever-present servant problem, with its yearly increasing magnitude, the vigils of maternity, the education and clothing of children, the daily combat with the butcher, the baker, ice-man, laundry-man *et id omne genus*, each demanding a larger proportion of her allowance, not to mention the exactions of her social environment, constitute a draft on her nerve energy that would bankrupt any but an inexhaustible supply.

The financier who presides over the exchequer of a large enterprise, whose perplexing problems follow him home at night to disturb his domestic tranquillity and rob him of sleep, whose hasty meals are sandwiched in between the reading of the market quotations and telephone messages, etc., is often overtaken by an incapacity that seems unwarranted considering his age and apparent physical condition.

The minister, the ambitious student at college, the teacher, the professional man and especially the schoolgirl furnish large numbers of recruits to this ever-increasing army of incapables.

As paradoxical as it may seem, many cases are observed among the unfortunate unemployed children of wealth, who have never known the absorbing interest of earning their daily bread, who have so little to do that it is an effort to keep themselves physically fit, who are constantly begging for a potion for a night's sleep and who are strangers to that kind of slumber that has to be fought off till a task is done; whose organs of elimination from lack of physical activity are as foul as a surface sewer; whose digestive organs from early and long-continued over-indulgence have long since lost all that compensation that food brings to honest toil; whose principal occupation and whose greatest delight seems to be the contemplation of their own sensations. This class elicits our constant pity and commiseration.

These various groups of cases present a protean picture: Headache, backache, tender spine, tender nerve endings, gastric and intestinal disturbance, abdominal pain and tenderness, constipation, flatulency, occasional mucous diarrhea, disturbance and painful menstruation, palpitation, tachycardia, dyspnea, cold extremities, hyperesthetic and anesthetic areas, exaggerated reflexes, tire, inattention, inability to work, irritability, weakness, introspection, discouragement, hopelessness, chronic incapacity or invalidism—and all this while they are yet young and in apparently good physical condition.

The correct recognition and proper management of these cases is an ever-present and trying problem, and failure too often involves many fatal errors. The ready appreciation of the central origin of this incapacity is beset by two great stumbling-blocks:

1. These patients from constant introspection and analysis of their own symptoms assume to diagnose their own cases; it seems so simple; the stomach and intestines are upset and there is abdominal pain and tenderness, the trouble is abdominal; or there is constant pain in the back with menstrual disturbance; the trouble is located in the pelvis; or there is intermittent or constant headache that is made worse by much use of the eyes; hence there is certainly some error of vision; or perhaps there is tachycardia, palpitation and dyspnea, and heart disease is assumed. Having made a diagnosis, such patients at once elect to place themselves under the care of some professional man who devotes his activities to the treatment of the particular organ complained of, and then there develops the second stumbling block, which seems to have resulted from the following fact:

2. The limitation of our endeavors to any special line of professional activity seems to exaggerate and magnify that particular work in our minds until our perceptions are so restricted and our point of view so contracted that we are blind to all else, save those organs and tissues in which we are taking special interest. This seems to result from a one-sided development of our powers of observation, and is not limited to any special line of work.

Unhappily, the medical profession has not been able to rid itself of the mysticisms that still surround it in the eyes of the laity, and when a man makes a reputation on a certain line of work, the public assumes that he at once becomes an authority on all branches of the science—a pleasant misapprehension which is rarely corrected, but which is indulged in at times even by the man himself. Hence we see the doctor often falling into the same error as the patient and diagnosing disease in that complaining organ to which he is directing his special attention. That error is, however, as previously stated, not limited to any special line of work. These patients usually run the gamut of the profession and are successively fitted with beautiful glasses, have their stomachs washed out for a longer or shorter time, and then have a gastroenterostomy done; the appendix is next removed, and then are successively performed cholecystotomy, uterine and kidney suspension, perhaps removal of tubes and ovaries, dilatation or sewing up of cervix, removal of hemorrhoids, perhaps dilatation of an old stricture or massage of the seminal vesicles, and after all these procedures have been followed by brief improvement, temporarily justifying the idea that each succeeding new medical attendant has just really discovered the cause of all the suffering and is going to furnish the long-expected cure, the patient, if enough has been left to carry on his vital functions, then either becomes a victim of the infirmary habit, a chronic, neurotic incapable, or drifts into the ranks of some of dietetic or religious fanatics.

Is it not possible for us to draw a valuable lesson from our experience with these people? That the various diagnoses of so much local disease could not possibly be correct is beyond question; that improvement followed the treatment and assurance of relief in each instance may be true, yet a cure has not been effected. The hope and expectation of promised relief and the confident assurance of each and every new medical adviser that relief would follow each new treatment has conveyed to the confiding patient's mind the suggestion that that particular organ would be relieved, and it usually is for a longer or shorter interval. But is it not possible for us to approach the subject from a higher and broader point of view, and to secure more permanent relief?

1. It is essential to fix steadily before our own minds after thorough and painstaking examination the fact that the varied complaints of such patients cannot possibly be explained satisfactorily on the basis of local disease, but that they are probably due to a central cause acting through the nervous system, which, for want of a better name, might be designated "lack of nerve energy." Perfect frankness should be used in explaining to the patient that there is no disease present to account for the symptoms; that the complaints are due to a lack of nerve energy supplied to the tissues; that the tissues cannot discharge their functions without this nerve energy—that it is just as necessary to proper function as the circulation of the blood; that it is now proposed to institute a line of treatment that

will restore the proper amount and proper character of nerve energy; that restoration of function will result; that relief cannot come, however, without cooperation of the patient, in a new direction.

This explanation usually interests and seems to help the most fastidious and long-suffering. The greatest difficulty is experienced at the very outset, however, in convincing the patient, in the face of previous opinions, that there is no local disease present.

2. Restoration of function in any organ or tissue is impossible in the absence of the proper food-supply to that organ or tissue. Neurons and their multiple connections are no exception to this rule. An improvement in the food-supply of these patients is always of prime importance, and to accomplish this improvement is no easy task, as the belief in the presence of nervous indigestion has been indelibly impressed on the patients and they often consider themselves an authority on the subject of dietetics. Much help, however, may be derived from the constant suggestion that the trouble is entirely supradiaphragmatic and that the fear of food is unwarranted.

3. Chronic constipation is usually associated with the intestinal indigestion; mucous colitis is common, much abdominal pain and tenderness not infrequent, contributing an auto-infection from this canal that may not be an inconsiderable secondary etiologic factor; hence laxatives are continually called for, and may form a part of the daily regime.

4. Nothing is more important, impressive and suggestive than to have the doctor write out a program to occupy every hour of the patient's time, day and night, including amount, character and frequency of food, time, character and duration of baths, amount and time of isolated rest, hours in bed, amount of recreation and company, and an accurate instruction as to medicine, if any. In this way vicious habits of life may be corrected incidentally without friction, and the importance of the treatment impressed. Some of these patients are at times able to accomplish a considerable amount of work if their energies at other times are properly conserved. At times the only treatment that will be necessary at all will consist in temporary suspension of work, at other times change of occupation is the price of health and happiness.

5. In the effort to secure sleep many fall victims to drug addiction, an unfortunate complication always to be looked for, and a result to be carefully avoided. It will be difficult to avoid the occasional use of hypnotics; sleep, however, may be effectively secured by other and less dangerous means, to be mentioned later. The procuring of sleep by the regular use of narcotics is criminal.

6. The use of the cold bath in the treatment of these neurotic patients is an indispensible therapeutic agent; commence at first with a cold morning sponge, followed by a brisk rub, to be supplanted later by the cold spinal douche and then the cold plunge, effect is observed in procuring sleep, improved digestion, restored vascular, nutritional and metabolic equilibrium that is at times astonishing.

7. It becomes at once apparent, as already pointed out, that these patients are peculiarly susceptible to suggestion; otherwise the temporary improvement, under so many different lines of treatment, for different complaints, would not have been obtained. This temporary relief came from suggestion of relief directed to that individual complaint. Now with local disease out of the mind of the doctor and out of the mind of the patient, and the central idea of the trouble substituted therefor in the minds of both, is it not possible to substitute a conscious intentional and wholesale for the present unconscious and unintentional retail method of conveying the suggestion?

For the carrying out of this idea there are several prerequisites: the doctor himself must be of a tactful and magnetic disposition and possessed of a patience that would excite the envy of Job. The hearty cooperation of the members of the family is of importance; all of them are to be instructed to remark occasionally the patient's improved condition. Unkind criticism or reflection on former medical attendants is fatal to the effort. Patients must be prohibited from discussing their complaints with anybody but the doctor.

Electricity and vibration, aside from any inherent therapeutic merit, are perhaps the best vehicles in which to administer the suggestion. Either or both may be used alternately. A certain hour, on a certain day, must be selected and the engagement scrupulously observed. Negligence, indifference or inattention is at once followed by loss of cooperation. The patient's clothing should be removed and the surface of the body carefully gone over either with the electrode or the vibrator and as tender points are reached they should be gone over again carefully with the constant, confident, yet quiet assurance that the treatment will remove the tender spots. The greater the elaborateness, the more obscure the complexity of detail, the greater the amount of surface covered, the more forceful and lasting the suggestion. During the treatment and immediately thereafter the patient should be assured that it is always followed by more quiet and refreshing sleep, that digestion and appetite are constantly invigorated and the tender spots relieved, and that general comfort will follow until the next visit. On the next and all succeeding visits, before the patient has had an opportunity to begin the usual recital of discomforts, the doctor should be careful to remark casually on the improved appearance and better color, and at once to ask tactfully and carefully after each and all specific complaints, with the inquiry if they are not better. Optimistic suggestive inquiry, with confident reassurance, should characterize each and every interview.

I beg that this paper may be construed as a plea for a broader and deeper conception of the complaints of this class of patients, a conception which will carry the diagnostician beyond the consideration of local expression as an evidence of local disease, into the realm of mental control, where the seat of injury is often found in the loosening of that tie which should normally bind the higher subliminal self to functional activities.

Patients of this class are certainly entitled to every means of relief that can be afforded—dietetic, medical, surgical and hygienic; but shall we stop there, abandoning that wide field of psychotherapy, now holding such promise of development for the future?

All therapeutic measures belong to the medical profession, and failure on the part of the physician to add mental therapeutics to other treatment is, in my opinion, largely responsible for the ever-increasing numbers of devotees to those false religions whose tenets are neither scientific nor Christian, but who adroitly swell their ranks and promulgate their false doctrines by practice of this principle, so long well known, yet only recently being seriously put on a sane and healthy basis for the use of every practitioner.

PRESCRIBING OF LENSES FOR CLOSE WORK *

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It will be possible to discuss only certain phases of this broad subject. Some procedures do not seem to be sufficiently well known, and require elucidation and emphasis in order to secure their more general adoption by those who prescribe lenses for the eyes. Before considering the prescribing of lenses for close work, the muscle conditions and static refraction for distance should be correctly determined. The latter is usually impossible without the proper use of cycloplegics, except in certain cases of myopia and in some people past middle life whose accommodation is weak or easily controlled. Sometimes the examiner must be satisfied with partial corrections, because fatigued yet determined, hypertrophied, habit-controlled, spasmodically contracting muscles are by no means limited to the young, but are often found in the eyes of the middle-aged with their more inelastic resisting lenses.

There are many young persons who suffer more or less distress, e. g., blurring, eye-ache and even headache after continued close work who experience no difficulty in the ordinary use of their eyes. In such cases it is a common custom to advise the constant use of lenses; during our first years in practice we made it a rule to do so. If there is no fixed vertical muscle imbalance, however, and no astigmatism or only a slight degree, less than .38 D., with weak spheres of nearly similar strength for each eye, the proper distant correction should be worn only for close work if all the symptoms are thereby relieved. In many patients it is more satisfactory to advise constant use of the lenses for the first few weeks or months until unnecessary ciliary contraction and consequent dimmed distant vision has more or less disappeared, when, if no symptoms remain, the patient may lay aside the lenses except for near work. Patients are often compelled by their advisor's orders to undergo the discomfort of constant use of lenses, although many, after a period of rest, disobey instructions, lay aside their lenses except for close work, discovering that they are comfortable without them. Such patients may lose confidence, and often go one step too far, discarding the lenses altogether for a variable time without discomfort, although possibly injuring the eyes by the added accommodative strain. It must be admitted that certain of these patients are not comfortable without constant use of lenses and it might be argued that in some the ametropia, e. g., astigmatism, is more likely to increase, but this chiefly depends on the individual and his work and can be known only by a fair trial. The oculist should not as a matter of routine advise such patients to wear lenses constantly. Of course, if there is considerable astigmatism or heterophoria present the patient may harm his eyes by not doing so and is not so likely to find comfort in their use for close work only. The eyes of the great majority of young people are hypermetropic, requiring the use of the ciliary muscles for clear distant vision, but such eyes, unless very hypermetropic, do not necessarily suffer distress or impairment of function in doing distant work; it is nearly always the added strain in near work that distresses and injures, especially if there is impairment of the general nervous system or the health.

The use of lenses in close work is often made necessary independent of the condition of the eyes for the distance. This is true when there is any impairment of the general health and vigor weakening the action of the ciliary muscle or influence of the third nerve, e. g., in conditions following various infectious fevers, especially after typhoid and diphtheria, and in certain toxemias and anemias as well as in cases of subnormal accommodation, or ciliary asthenia from other causes. In such cases pure hypermetropia of low degree might require lenses for only close work, while patients with considerable astigmatism or those who require prisms, especially one base up or down, usually should have bifocals. Lenses could be tried for near work, but, since these would not permit good distant vision, bifocals would be particularly helpful, especially in certain vocations, for instance, in that of a student. As the ciliary asthenia disappears the segments may be made weaker or dispensed with, leaving the proper distant lenses for distant and close work. In these cases there is a temptation to give too strong lenses for near work so as to help the patient as much as possible, but this discourages return of function in the weak muscle, although, according to Hess,[1] exercise can have no effect on the maximum of lens convexity. Duane[2] believes that exercise can increase the accommodation when weakened. Such patients should be requested to hold the reading, etc., as far away from the eyes as possible and to give the eyes frequent short rests from close work. Attention to general treatment and hygiene is very important, and posture, position, intensity of lights, etc., should not be neglected.

In myopia of about the same degree in each eye, over .50 D. and less than 2.00 D. or 3.00 D., and with little or no astigmatism, it is often best to have the patient wear the lenses only for the distance and lay them aside in close work unless he holds objects too close, necessitating too much strain on the muscles of convergence. In quite young persons it is better, if possible, to have the patients wear the lenses constantly in order to develop the accommodation. In myopia over 2.00 D. or 3.00 D. the use of bifocals is often advisable, great care being taken not to add too strong a segment. Space forbids a full discussion of anisometropia; but in cases in which a patient does not enjoy binocular vision or uses one eye for distant vision, the other for near, attempts to equalize them or adapt both to one distance will be fruitless and contrary to the best interests of the patient.

The far and near point giving a fair idea of the amplitude of accommodation should be found. In testing for close work, not only the best but also the nearest and farthest distances at which the print can be comfortably read with lenses should be determined. This gives the ordinary accommodative range. In difficult cases, especially in those who have previously complained of their lenses in close work, the accommodative range in each eye separately should be carefully ascertained. In testing the accommodation by means of test-types, the retinal image varies in size, depending on the distance of the test-type from the eyes. For accuracy this image should not vary in size and thus change the visual angle; therefore, ordinary tests with test-types or with lenses are inaccurate. I have found the punctumeter, a variety of Badal's optometer (Tscherning[3]) in which the retinal image remains the same size, convenient and sufficiently accurate, as by it the accommodation

* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

1. Hess, Carl: Modern Views on the Physiology and Pathology of Accommodation, THE JOURNAL A. M. A., July 26, 1907, xlix, 230.
2. Duane, Alexander: The Accommodation and Donders' Curve and the Need of Revising Our Ideas Regarding Them, THE JOURNAL A. M. A., June 19, 1909, lii, 1993.
3. Tscherning: Physiologic Optics, pp. 83 and 84.

may be quickly measured. Last year before this Section Duane[2] described a disc and method for testing the accommodation.

All these tests should be made with the patient's back to the source of light, thus avoiding contraction of the pupils sufficient to affect the result. Any of these tests may be misleading if the muscles have been fatigued by a previous long examination, especially if by fogging or other methods the patient has been induced to relax wholly or partially his accommodation. On the other hand, such tests made in the beginning of the examination, during or after it, when a spasmodic effort is made by the strained eyes of the anxious patient, may demonstrate greater accommodation than is ordinarily present. Accommodation in some people, especially in neurasthenics, in certain hysterical persons and in those with marked convergence defects, is very variable, the ciliary muscles easily becoming exhausted, so that it is instructive to make these tests early in the examination as well as after the eyes are tired. This exhaustion of the accommodative apparatus partially explains the blurring and other difficulties certain persons experience after continued close work which they do not notice in using the eyes for a short time. When the blurring begins they bring their close work nearer, securing magnification, sacrificing clearness but forcing additional work on their already exhausted ciliary and adducting muscles.

By the tests described above the amplitude of accommodation on the two sides may be shown to be quite unlike, the result of various diseases, especially those of the nervous system, usually weakening, paresis or paralysis of accommodation and possibly, in rare instances, spasm of accommodation. For close work it is occasionally necessary to place a stronger lens before the eye with the weaker accommodation. Commonly the difference between the lenses will be from one-third to two-thirds the difference of accommodation, or in young persons even less than one-third (Jackson[4]). It is very helpful to know that there is no accommodative power in some old people with not very clear media and small pupils. The vision may be so blurred that they cannot select the proper amount to add to their distance correction for near work, e. g., such a patient may not be able to chose between a +2.00 D.S. or +3.00 D.S. added to the distant correction. In these cases the equivalent in diopters should be added, as for 33 cm. a +3.00 D.S. should be added to the distant correction. While the range of vision with lenses for close work should be found in order to help determine the best lens, as too strong lenses often limit the range too much, and while the amplitude of accommodation should be determined and will prove helpful, rules for prescribing applicable to every case cannot be made. Probably no one could constantly employ his full accommodative power, but it is impossible to say whether a particular patient can use two-thirds or one-half of his power, as asserted by some writers. Some persons can use three-fourths of their accommodative power more constantly and easily than others can one-fourth. Fixed rules, a given distance or method are not applicable to all cases.

After having determined the ametropia for the distance, and, in special cases, the amplitude of accommodation, the distance which the patient prefers for close work should be ascertained. Next he should be placed with back to source of light and a test chart given to him. He should not be permitted to face the source of light, as this causes contraction of the pupils, partly preventing diffusion circles, thus doing away with the necessity for lenses and making it difficult or impossible to find the correct strength for ordinary conditions. The test-card should not be in direct sunlight, although it should be in good daylight without the patient's shadow on the card. Good artificial light from a source behind the patient serves well, and, as this is the kind of light commonly complained of, its use is often advantageous. He should be directed to look at test-letters of about the size of ordinary print, e. g., .75 D. or Jaeger 4. If the patient's vision is poor he should be directed to look at larger letters. If the test is made with very small letters the patient is likely to hold such letters a little closer than he would ordinary-sized letters, sacrificing ease and clearness to secure greater magnification. A sheet of ordinary music should be used when lenses are desired for reading music. If care is taken that the lenses are properly centered in the trial frame a seamstress may suggest something helpful as to distance if required to thread a needle and possibly to make a few stitches.

The range for the test-object should next be found; first, how far away the letters can be comfortably seen; next how close they can be easily read, and last the best distance at which they can be seen. The patient should be told to confine his attention to the distance for the lenses being tried, for if this distance is unsatisfactory it may be made right by other lenses and that, therefore, he should totally put aside his preconceived ideas of the proper distance for his work.

Persons in various vocations prefer different distances. A bookkeeper, type-setter, laundress, painter, carpenter, pianist, violinist or one who works at a flat-top desk rarely likes lenses which necessitate his coming close to his work, e. g., by leaning forward over books or desk. The lenses for the ordinary reading distance should first be found which will greatly aid in determining the proper lenses for particular distances. We have described our ideas about the proper distance for close work, especially as dictated by heterophoria and convergence tests, and the necessity for muscle exercises and prisms in these conditions in former papers.[5] These papers emphasized the point that, whenever lenses are prescribed, the intimate relation between accommodation and convergence is changed, requiring readjustment; further, that a patient with a strong desire for fusion, or single vision, may have marked ability to converge for a short time, or, for that matter, to rotate the eyes in any direction, just as a hypermetrope can accommodate, but that he is likely to become tired by such forced convergence, just as a hypermetrope becomes tired by forced accommodation, if the eyes must, in order to secure single vision, be rotated considerably from what may be termed their position of rest for any particular distance.

The examiner, in order to prevent early change of lenses and to thus lessen the patient's future expense, is often tempted to prescribe too strong lenses for close work. These limit the patient's range for near work, and, while lessening the accommodative stimulation to convergence, add to the convergence strain. For ordinary patients with good convergence power, for reading and sewing it is usually well to prescribe lenses for about 37 cm. This is a little too close for sewing on a machine or ironing, but is a good average distance. This distance is varied, depending on the vocation,

4. Jackson: Ann. Ophth., July, 1907.

5. Stevenson, M. D.: Ophth. Rec., July, 1904, and February, 1907; Practical Importance of Hyperphoria in Prescribing Lenses for Use at Particular Distances and in Different Directions, THE JOURNAL A. M. A., July 17, 1909, liii, 203.

desires of the individual patient, conditions of the extra-ocular muscles and convergence power and also dependent on whether there is binocular single vision. Unless the vocation demands otherwise, a one-eyed patient will usually prefer a strong lens if convex, and those with marked subnormal vision will also usually accept a strong lens, preferring magnification to clearness, range, etc.

As in tests for the amplitude of accommodation, it is sometimes necessary to make separate and repeated tests for the best lens for close work, since the ciliary muscle, if exhausted by the previous examination, will require too strong a lens for ordinary use; that is, a lens which at the time of examination gives a reading distance of 37 cm. may in the ordinary condition of the eyes have a reading distance of considerably less. On the other hand, there might be a spasm of the ciliary muscle, and on continued use the lens would be too weak.

Accommodation is strongest in the young, not in infants, and gradually diminishes afterward until abolished. The age when special assistance to the eyes in close work because of weakened accommodation is first required varies, but much depends on the general health and vitality, the vocation of the patient, the amount and nature of ametropia or heterophoria present and the size of the pupils. Accommodation is the first important function to weaken and does so while the ordinary muscles of the body are growing and developing, possibly suggesting its biologically difficult and recent acquirement, especially as it is imperfectly developed in the savage and in the lower animals. In these times of overworked eyes, as in reading, embroidering, engraving, etc., special help for the accommodation is frequently demanded, i. e., a stronger lens if convex, weaker if concave, than the proper distance correction is required. Many patients over 30 or 35 complain of the use of their eyes only in close work. They are usually given their full or nearly full distant correction, to wear constantly. Many of these with a low degree of ametropia, especially with only a little astigmatism, with good extra-ocular muscles, will get greater relief and avoid the nuisance of wearing lenses constantly if a somewhat stronger convex or weaker concave lens than is required for the distance is prescribed for close work only.

Judgment and great care must be exercised in these cases. If there is much astigmatism or if a prism, especially a vertical prism, is required it may be better to prescribe only the full correction and as accommodation diminishes and this correction fails to satisfy in close work add a segment or give a separate stronger pair of lenses for near. A + .50 D. or + .75 D. segment added to the distant lenses often greatly aids the patient. It should not be forgotten that even if the ametropia for the distance is fully corrected in close work the ciliary muscle is compelled to make continuous effort, for instance, 3.00 D. at 33.3 cm. The time is probably coming when many more young people than at present will wear bifocal lenses, giving clear and easy vision at the distance and special aid in near work.

When patients past middle life complain only in doing close work and the eyes are normal or nearly so for the distance, lenses may be prescribed only for the former. In these cases, however, bifocals should often be prescribed, the patient being requested to wear them only for close work. Even a weak lens correcting the ametropia is preferable to a plane lens, and if a large segment with its upper edge just below the lower margin of the pupil is given in frames with good reading angle the patient will find it more convenient in doing his close work, not having to remove his lenses to see at the distance. The main objection to bifocals, viz., that the patient cannot see easily when walking about is removed, as the lenses are used only for close work. For patients who object to this use of a bifocal or for those whose vocation demands a whole lens, e. g., certain dentists or bookkeepers, a single lens is prescribed. Some prefer to use half or clerical-shaped lenses.

When there are symptoms of asthenopia, e. g., headaches, blepharitis, etc., due to a considerable degree of ametropia, two pairs or bifocals should be prescribed. Two pairs are better for those engaged in certain vocations, whose eyes must be directed through every part of the lens, as for dentists, bookkeepers, type-setters, sign-painters, etc., but they are inconvenient in many well-known ways. Two pairs require more care and must be frequently changed, especially difficult as it necessitates the use of both hands, a case, and some place to lay one pair of lenses.

To avoid the use of two pairs several substitutes have been used. Grab-fronts, whole or half lenses, grab-backs, whole or half lenses, are very serviceable in some cases. Half grab-backs serve like a bifocal both near and distant vision, but for those who wish a whole lens and desire to make quick changes the whole grab-back is useful. The grab-backs are not convenient for those who are often required to look upward, as salesmen in stores, painters or carpenters, for the grab-back then slips backward against the eyes; or for those who, like skirt-fitters, are often required to stoop, since the lenses are then liable to drop out from behind the spectacle frames. Grab-fronts hang on better than grab-backs, but are more difficult to adjust; and both are objectionable because of appearance, can be used only with spectacles, require careful and frequent adjustment and the rubbing together of the lenses scratches and mars their surfaces.

The most generally used substitute for two pairs is the bifocal, and, while the patient is usually disappointed in their use during the first few weeks, he usually likes them after becoming accustomed to the necessary blur of distant objects seen through the lower portion of the lens in looking downward and to the doubling of objects seen through the upper margin of the segment. The difficulty with this upper margin is much less in kryptoks and so-called invisible bifocals than in the older varieties. The patient should be given to understand that at first he must be patient with bifocals. In many ways they approach the ideal for two distances without any change of lenses. The segments are easily and cheaply changed. They may be prescribed either in spectacle or nose glass frames and with any degree of durability and elegance. For temporary use a detachable segment suggested by H. G. Huffman of Youngstown, in which the segments may be quickly clamped on the distant lenses by merely pressing them into a special case, may be employed. This form of bifocal may also prove useful in making a prolonged trial of double lenses. They are superior to other bifocals in that the patient may discard them when not doing close work, may have two pairs of them for different distances, may place one pair over regular bifocals and in that they can be easily decentered.

With bifocals the great difficulty complained of is in seeing downward at a distance—seeing the sidewalk, curb, etc., when walking. We formerly made the common error of trying partly to avoid this trouble by prescribing too small segments, by giving frames so that the segments were placed too far below the pupils. It did

help the patient when walking about, but made near work more difficult and tiresome. The very small sizes require too much adjustment of objects looked at, give too small a field. Very large segments are required only for those who must move their eyes much in their work. They can scarcely be made large enough for bookkeepers and some dentists. Small segments for distant vision may be placed on the uppermost portion of the lens, the remaining large part being for close work. If the segment is placed too low the eye is compelled to look downward to such a degree as to tire the external ocular muscles. A false lens astigmatism is produced by looking through the strong segments at such an angle; also the effect of a stronger sphere results so that the patient is compelled to hold his work closer than was intended by the prescriber. This tires the eyes because of the increased amount of convergence required. Experience has taught us that the segment should be only very slightly below the pupil, especially in those who wear the bifocal only in close work, and that all lenses for near work, especially bifocals, should have the top tilted considerably farther away from the face than the bottom—a large reading angle.

Toric lenses give a better reading angle in the segment than ordinary lenses. With a good reading angle the eyes then look more directly through the lenses with less false lens astigmatism and with more nearly the spherical effect desired. Ordinarily the patient will soon accustom himself to walk about with segments high up. If spectacles are worn, for a time the frames can be pulled forward and down on the nose while the patient is walking. With nose-glasses, in close work, the reading angle should often be increased by tilting outward the top of the lenses. When a different prism is required in the reading lens from that in the distant lens it can be made in bifocals, but is often better employed in two pair. Last year before this Section one of us described a method by which hyperphoria in various planes for near work can be examined, and pointed out that, since it sometimes varies in different planes, it is necessary to prescribe different prisms for near than for the distance, also that such patients as well as anisometropic patients must learn how best to hold the head and eyes, that for such there is only one best position or plane in which the object should be held.

Everett Building.

ABSTRACT OF DISCUSSION

DR. A. G. BENNETT, Buffalo: I wish to take exception to one point in Dr. Stevenson's paper, and that is the statement that it is a waste of labor to try to make the patient with anisometropia use both eyes. I have had several instances of patients with one eye myopic and the other hyperopic or emmetropic using the emmetropic eye for distance and the myopic eye for reading. Some years ago I followed the advice now given by Dr. Stevenson and allowed the patient to use one eye for reading and the other for distance. But in the case of a young woman who came to me some years ago with a difference of 3D., I thought I would try to make her use both eyes. She had entire loss of accommodation in both eyes —the right eye from lack of use and the left eye from myopia, also from lack of use. So that she had a subnormal accommodation of at least 3D. I gave that patient a pair of hook-ons of 3D. to use before both eyes when reading or doing close work, with full correction for distance. Then I gave her some weak physostigmin (eserin) to use at night. She used the physostigmin and glasses three or four weeks. I was then able to reduce the hook-ons a half diopter. I continued that method of decreasing the strength of the hook-ons until in nine months she had full accommodative power. I have carried out this plan a good many times, and always with success, being able in every case to give them full accommodation.

DR. A. E. BULSON, JR., Fort Wayne: The accommodative power is influenced by so many factors that no hard and fast rules can be observed in the prescribing of lenses for close work. The health, temperament, vocation, habits, and the amount and kind of error of refraction may affect the muscular tone, and these factors may be inconstant. They must, however, be taken into consideration in the management of any case in which there is discomfort in using the eyes for close work. Some persons are thoroughly uncomfortable when wearing the full correction for close work, but derive the greatest benefit from a quarter, a half, or two-thirds of the correction. Other persons secure the greatest relief when wearing the full correction. A small percentage of patients will derive no lasting benefit from any correction, owing to inconstancy of muscular tone. Many cases, and the last class in particular, require treatment or a regulation of the habits or the conditions under which the eyes are used. I do not believe that in non-presbyopic cases we are ever justified in giving more than the full correction of the static refraction, for in such cases there is an urgent demand for a correction of the abnormality by means directed to the underlying cause. The lowered tone of the accommodative power requires something more than the effect of lenses, which do not aid in restoring the impaired function. The patients are generally, if not always, benefited by rest, coupled with whatever treatment may be indicated to aid in the restoration of normal accommodative function. The emmetropic eye should possess the necessary accommodative power for near work, as otherwise the eye is suffering from an impairment of function which calls for something more than lenses. The ametropic eye may possess all or more than emmetropic accommodative power, and the determination of the lenses required resolves itself into the question of an estimation of the amount of surplus accommodative power under average conditions, which, taken from the total refractive error, indicates with a fair degree of certainty the lenses which should be prescribed. Theoretically, a correction of the full amount of ametropia is indicated, but practically this does not work out satisfactorily in all cases. Here again we must take into consideration other factors which must be considered, not by correction with lenses, but by suitable treatment. We are also confronted with the effects of varying uses to which the eye is put. The person who works satisfactorily at one occupation with certain lenses may be very uncomfortable when the occupation changes. The person doing only an average amount of eye work very comfortably with a certain correction may be uncomfortable when doing something requiring more use of the accommodation. Therefore each case must be studied on its merits before it is altogether satisfactorily settled. The ophthalmologist who secures the best results will be the one who looks beyond the findings obtained from objective and subjective tests of the refraction before prescribing lenses.

DR. ALLEN GREENWOOD, Boston: I want to emphasize what Dr. Bulson has said, that each case of refraction must be treated by itself. I also want to suggest a procedure which I have followed with great advantage, and that is, in young people who have a fair amount of esophoria, it is a good rule for a time to require glasses for near reading. The patient with exophoria very seldom will wear glasses for near. I also want to speak about anisometropia. I find that young people with the symptom uncorrected may be made absolutely comfortable with the proper correction for each eye.

DR. S. L. LEDBETTER, Birmingham, Ala.: Dr. Stevenson speaks of the difficulty in getting accustomed to bifocals on account of the blur that occurs in passing from the upper to the lower lens. There is a distinct blur, depending on the strength of the lower lens, for practically ⅛ inch in which nothing is seen. This is obviated by a little device which some of you may have heard of. It was suggested to me by a manufacturing optician. The usual bifocal segment is placed with the apex up. When the ray of light comes to pass through the segment it is deflected and gives more the appearance of

coming from high up. Whereas, if you put the base up, when you reach the point of disappearance of the image, it produces a deflection so that the object is seen through the lower segment before distinct vision becomes lost through the upper, and you pass immediately from the upper to the lower segment, apparently seeing the object below before it has been lost from above. Mechanically, it does not look very bad, and it does away with the blurring. It can be made in the kryptok in the same way.

DR. G. C. SAVAGE, Nashville: There are two points not yet touched on in the discussion that are of vital importance. If you have cases of anisometropia, you can correct the error in each eye, but if you fail to tell the patients that they must look through the centers of the lenses, then they will get into trouble. To illustrate: Suppose I have a case of hyperopia of 2 D. in the right and 5 D. in the left eye. That is a difference of 3 D. Looking through the centers of the lenses there is no prismatic effect anywhere, but let the patient look one-fifth of an inch above the centers and he gets 3 degrees of prismatic effect vertically in the left eye; likewise, if he looks below one-fifth of an inch, he gets three degrees of prismatic effect vertically for that eye. The muscles cannot bear that sort of a displacement, and if the patient cannot look through the center of the lenses, he should be given the same strength lens as that given the better eye.

The other point is this: If you have a young person who has weak accommodation, it is the easiest sort of thing to tell it. You do not tell it in a haphazard sort of way; but place the patient behind the phorometer, and if he has orthophoria for distance and esophoria for near, that speaks for weakness of the ciliary muscles, and that weakness can be cured by gymnastic exercises. Instead of giving such a patient presbyopic lenses, I put him on exercise by means of concave spheres. I tell him what I want to accomplish. "The ciliary muscles require too much nerve force to do the focusing, and that produces a disposition to cross, and that gives a pull on the part of the externi to keep the eyes from crossing. You exercise these little focusing muscles as I tell you and thus will gain power and you will be relieved of the disposition to cross." When the concave spheres are put on, the patient should be 8 or 10 feet from the letter or figure on the wall to be looked at, and he should be told to raise and lower the concave lenses in front of his eyes rhythmically, like the tick of the old-time clock, at first for about two minutes, and add a half minute to each exercise until he gets up to ten minutes, and then for weeks or months exercise these ciliary muscles ten minutes just before retiring, so that the blood thus invited will build them up and make the muscles strong. These spheres should be —.75 D.

DR. JOSEPH S. LICHTENBERG, Kansas City: There is still one point that should be taken into consideration in fitting glasses for near, and that is the character of the light used. In our present-day civilization stenographers, bookkeepers and others are compelled to work by artificial light, principally incandescent electric or gas lights, and in this light there seems to be an irritant quality, possibly due to ultra-spectroscopic rays. My experience is that stronger glasses are necessary. Also under certain circumstances a certain tint can be given to the glasses, as amber, or amethyst tinted glasses, as suggested by Dr. FOX, or possibly those so-called ray filtering glasses, made by the German chemists.

DR. MARK D. STEVENSON, Akron, O.: Last year, before this section, I emphasized the importance of the anisometropic patient looking through the center of his lenses as much as possible; that he should turn the head, using the neck muscles instead of the external eye muscles, and that he should hold the reading matter as nearly on the proper plane—up or down—as he could. As stated, a full discussion of anisometropia was impossible in this paper. Usually the patient using one eye for distance the other for near, especially if there is a great difference between the strengths of the two eyes, will not appreciate attempts to equalize the eyes or adapt both to one distance. Of course, painstaking care and great patience on the part of both physician and patient will be occasionally rewarded by a brilliant result. As pointed out in the paper, I think the proper use of artificial illumination in testing for near work is very important, since it is commonly used by many patients. In asthenic conditions of the muscles the prime factor in treatment no doubt depends on the improvement of the local and general hygienic conditions and health—proper rest, exercise, etc.—but in many busy people there is a period before recovery when the eyes must be given more than ordinary assistance by lenses. This is not only demanded by the patient's necessity to use the eyes comfortably, but is often important temporarily in preventing harm to the eyes. As the whole is greater than the part, the examiner must not forget that he is above all else a physician, and that these cases require not merely local lens or other treatment, but, in addition and above all, his best skill in diagnosing and treating the underlying general cause or causes.

EDUCATIONAL WORK IN REDUCING INFANT MORTALITY

WILBUR C. PHILLIPS.
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NEW YORK

Step by step as we descend from the level of the extreme rich to that of the extreme poor, we find conditions increasing which militate against the lives of little ones. Where people are poorest, and where the scantiest means are found to combat evils which threaten, there invariably we find the darkest tenements, the narrowest and foulest streets, the lowest standards of living and the greatest ignorance. In consequence the death-rate among infants, as all persons know who work in these localities, is appalling. Especially in the summer, the babies literally die like flies. The fear of something terrible hangs like the sword of Damocles over the frightened, ignorant, and too often superstitious mother. Why does the baby die? The mother does not know. She knows only that her baby is vomiting and lying almost lifeless in their arms, and that at any moment it may follow where the others have gone. A timely word, telling her not to do the thing which makes her ignorance murderous, in many instances would save the baby. When the mothers begin to realize this their eagerness to learn, their hunger for instruction, is pitiful, more pitiful than physical hunger or its twin specter, undernourishment, stamped on the faces of so many, many women and children of our tenements.

This is the real tragedy of infant mortality—the unsatisfied desire of souls for knowledge, the permission of spiritual suffering and death.

To reduce infant mortality in its great and shocking totality, knowledge of infant-feeding, the hygiene of infants and all things pertaining to infancy must be placed first of all at the command of these poor mothers. The rich woman, the middle class woman, must also be taken into consideration, but the long red columns of infant deaths will not begin to shrink until the campaign deals effectively with those whose lack of knowledge is most pitiful and distressing.

Last year in Greater New York 15,977 infants less than 1 year of age died from causes which were largely preventable. No figures exist to show what percentage of these deaths occurred among the rich, middle class and poor respectively, but it is safe to say that a large majority, probably four-fifths, occurred among the people of the tenements. Some basis for this claim may be obtained from an investigation of Health Department records made by the New York Milk Committee in January, 1908. Three sections of the city were included—one section of twenty-eight blocks, comprising a fashionable residential district in the neighborhood of Fifth Avenue, Madison Avenue and Central Park; the second of five blocks comprising a middle-class residen-

tial district in the neighborhood of One Hundred and Thirty-fourth Street and Lenox Avenue; a third of three densely populated blocks comprising a typical tenement-house district bounded by Avenue A, East Seventy-fourth Street, First Avenue and East Seventy-second Street. In 1907 the estimated population of the three districts and the number of births recorded were as follows:

	Population.	Number of births recorded in 1907.
28 fashionable blocks	7,561	37, or ½ per cent.
5 middle-class blocks	7,696	160, or 2 per cent.
3 tenement blocks	7,858	434, or 5½ per cent.

Thus we see that in the above areas containing approximately the same population, three times as many babies were reported born to poorer classes as to the middle classes and eleven times as many to the poorer classes as to the upper classes. These figures are undoubtedly influenced considerably by the fact that most wealthy women and many women of the middle classes, go out of the city for confinement or are confined in institutions not included in the districts above named.

A fair estimate of the ratio of births among the three classes would probably correspond with the figures for Paris, Berlin, Vienna and London, reported by Dr. Bertillion at the Congress of the International Statistical Institute of St. Petersburg in 1887, which are as follows:

PARIS

If the birth-rate of *rich* = 1, then *middle* = 1.5 and *poor* = 2.3

BERLIN

If the birth-rate of *rich* = 1, then *middle* = 1.9 and *poor* = 2.6

VIENNA

If the birth-rate of *rich* = 1, then *middle* = 1.7 and *poor* = 2.0

LONDON

If the birth-rate of *poor* = 1, then *middle* = 1.4 and *rich* = 1.9

It is safe to say that in the districts above mentionel, twice as many babies were born to the poorer classes as to the middle classes and four times as many to the poorer classes as to the upper classes. These figures, although not so sensational as the actual comparative birth-rates reported to the Health Department, nevertheless show a striking contrast.

Knowing that the greatest danger to infants exists at the time of greatest heat, the Milk Committee, at the suggestion of Dr. L. Emmett Holt, selected a period of fourteen days, of which the first seven comprised the hottest week of 1907. In this way not only the immediate but the after-effects of a period of excessive heat were observed—something that is rarely done. The average mean temperature of the first week from July 18 to July 24 was 78.6 degrees and of the second week from July 25 to July 31, 76.4 degrees. In the three tenement-house blocks sixteen deaths, or 4 per cent. of the total number of infants known to have been born during the year died during the two weeks—nine during the first week and seven during the second. Had a similar death-rate prevailed throughout the rest of the year the mortality would have been 100 per cent. In the four middle class blocks and in the twenty-eight wealthy residential blocks of approximately the same population no deaths were recorded.

These facts tell their own story. The probable absence for the summer of most of the wealthy mothers and many of the middle-class mothers cannot be considered, as the ability to leave a hot city and thus avoid a principal cause of infant death—like the ability to employ infant specialists, trained nurses, etc.—is a purely economic advantage. Light, air, sanitary surroundings and proper nourishment, are all factors in the reduction of infant mortality. The lack of the means to purchase these commodities spells misery, disability and death.

VALUE AND KINDS OF INSTRUCTION

Because of the facts already mentioned, instruction and educational work, up to the present time, has been largely confined to mothers in the lower strata of society. This educational work has been of three kinds: (1) home instruction by nurses; (2) class instruction by doctors; (3) combined class and home instruction by doctors and nurses.

1. *Home Instruction by Nurses.*—The first educational campaign of house-to-house visiting in New York City was started by the New York Association for Improving the Condition of the Poor in the summer of 1907, when a small army of nurses, with headquarters at Junior Sea Breeze Hospital, were detailed to work in the Nineteenth ward, bounded by Thirty-ninth and Ninetieth streets between Fifth Avenue and the East River. These nurses visited mothers in their homes, instructed them in the care and feeding of their infants, and, as often as was necessary, revisited them and gave additional advice.

As a result of this work (for other reasons seem to be lacking), the deaths among children in the Nineteenth ward in 1907 was 222 against 254 in 1906, although the death-rate among infants and young children from diarrheal diseases throughout the summer was higher for the entire city in 1907 than in 1906.

Stimulated by the excellent results of this work, the New York Health Department in the summer of 1908 detailed a force of 83 nurses to do instructional work in the five boroughs in Greater New York. Each borough was divided into districts which were in charge of a chief medical inspector and a supervising nurse. Instruction was confined to the mothers of new-born babies whose births were reported to the Health Department. On being notified of these births the nurses visited the homes and, if the case was not already in the hands of the family physician or some competent person, instructed the mother, and, by follow-up visits, saw that the baby improved in health.

In this work the Health Department cooperated with the Conference on the Summer Care of Babies (now called the Conference on the Care of Babies, as it is intended, under the newly created Bureau of Child Hygiene, to continue this work throughout the year), an organization composed of representatives of some fifty societies and agencies directly or indirectly interested in the problem of infancy and motherhood. As the result of the combined and coordinated efforts of the Health Department and these agencies the mortality-rate among infants under one year of age was lowered in Greater New York from 17,438 in 1907 to 16,230 in 1908, and to 15,977 in 1909. In the summer of 1909, 140 nurses were detailed to this work by the Health Department alone.

2. *Class Instruction by Doctors.*—The idea of educating mothers in consultation or classes was first conceived by Dr. Budin in the Tarnier Clinic in Paris. Dr. Budin observed that many mothers, after leaving his maternity hospital, returned in two or three weeks without their babies. On inquiry, he found that these little ones, who had been dismissed in good health, had died; and he finally came to the conclusion that their deaths occurred largely because their mothers had no idea how to feed and care for them. As a result of this discovery,

Dr. Budin organized groups or classes of mothers, who had been delivered at the hospital, and who, after dismissal, returned to him at regular intervals, bringing their babies to be examined and weighed, while they themselves received oral instruction in infant-feeding, infants' hygiene and other matters affecting their little ones. In this way began the great movement of the *consultations de nourrissons*, which has since spread throughout Europe and was introduced in America in 1908 in the infants' milk depots maintained by the New York Milk Committee at that time organized under the New York Association for Improving the Condition of the Poor.

In the French consultations as well as in the consultations connected with the committee's depots the main thing striven for was the encouragement of breast feeding, an educational feature of great importance. No nurses were employed in the French consultations, concerning which Dr. Budin made the statement that the main essentials were a pair of scales and the service of a devoted physician.[1]

3. *Combined Class and Home Instruction by Doctors and Nurses.*—Believing that educational work among mothers would be greatly strengthened if connected with the distribution of pure modified milk, (a conclusion reached in France where, it was discovered, the *consultations de nourrissons* attained their greatest efficiency when connected with *gouttes de lait*) the New York Milk Committee on June 15, 1908, opened seven infants' milk depots in congested districts of Manhattan. In these depots pure milk was distributed to infants under the supervision of trained nurses. Volunteer physicians examine the babies weekly, weigh them, prescribe their food and talk to the mothers on infant hygiene in very much the same manner as do the physicians in the French *consultations de nourrissons*. The French method has been improved on, however, by the addition of the trained nurse who, by her home visiting and by her personal contact with the mothers, not only greatly enhances and strengthens the work of the physicians, but in many cases, where other demands intrude themselves on the doctor's time, actually bears the main burden of the educational work. In these cases the doctor prescribes and attends to the feeding, and the nurse instructs.

In order to compare the value of group educational work in milk depots, with that of group educational work independently organized, the committee supported two nurses who were in no way connected with the distribution of milk. These nurses cooperated with physicians, and organized consultations or classes at which feeding and hygienic instructions were given. From the results of this work[2] it was apparent that combining the instructional work for mothers with the distribution of milk greatly enhanced its efficiency and effectiveness, as the necessity of securing milk from a certain depot not only attracts mothers to it in the first place, but, by bringing them, either directly or indirectly, in daily contact with those who prescribe the milk, at the time when they obtain their supply, maintains a steady interest on their part which otherwise might be sporadic, easily interrupted and discontinued on slight excuse. Because of the continuity of this work as well as because careful records are kept of the weight and physical condition of the child when received; of the period of observation; of the regularity of attendance; of the continuity of physical progress while under observation; and of the weight and physical condition of the child when dismissed, the results of this work are both definite and trustworthy.

In the seven depots maintained since June, 1908, 1,207 babies were regularly (that is, for periods of three months or more) under supervision of the physicians and trained nurses. Careful records were kept of 466 cases; these records show that 55 per cent. of the babies were rated as fair, poor, bad or moribund; 70 per cent. of the families lived on $5 to $15 a week; 64 per cent. were housed in one, two or three rooms; 85 per cent. lived under conditions that were below normal; 64 per cent. of the mothers were rated as ignorant.

In spite of these facts, which it may be assumed apply to the entire group of infants fed by the Milk Committee, the average gain in the physical vitality of the depot babies as estimated by the Bureau of Sociological Research was 24.6 per cent. and the number in good condition grew during the year from 45 per cent. to 78 per cent.

Owing to the limited time and effort of the nurses, control was not exercised among many babies who might otherwise have been saved. Of those under control, eleven or less than 2 per cent. died.

This record of a work which is not yet perfected, demonstrates conclusively that by educating prospective mothers and by throwing about them all possible social safeguards, it is certain that a large number of deaths which now occur from ante-natal causes can also be prevented.

Educational Work of the Future.—In considering the future of educational work for mothers, it is important to remember that the quantitative problem of reducing the sum-total of infant mortality by carrying education to the mothers of the poor is no more important, although perhaps more striking and gratifying in its apparant gross results, than the qualitative problem of saving the lives of children, better fitted by heredity and environment to supply vigor and stamina to the nation.

Inasmuch as knowledge, that is to say, education, is a commodity, like milk or sugar, to be purchased or given away, those mothers who desire and can pay for instruction should be able to purchase it, while those who equally desire, but cannot afford to pay for it, should obtain it free. In this connection, the idea has long been in my mind of commercializing the work of supervision and instruction, which is now carried on by the Milk Committee's physicians and nurses in the tenement districts of Manhattan, just as the committee is actually commercializing the sale of milk in its depots. Indeed, many persons hold the opinion and often express it, that the time will come when physicians—and what applies to them applies equally to the nurses—will be paid to keep people from being sick and not to cure them when they are well. People able to pay for the knowledge which will accomplish this result would, in this case, be made to pay for it, and people handicapped by poverty, sickness or disability would be allowed to obtain it at part price or for nothing at all. The doctor who

1. The results of the work started by Dr. Budin and carried on in France have been summarized in a Plan for Reducing Infant Mortality in New York City, which I published in the Medical Record, May 30, 1908. Detailed information concerning the consultations held in connection with the Milk Committee's depots will be found in the committee's report entitled Infants' Milk Depots and Their Relation to Infant Mortality. Copies of these publications can be obtained by writing to the New York Milk Committee, 105 East Twenty-second street. An article descriptive of the method of conducting a consultation, written by Dr. Ira S. Wile, who has charge of the Milk Committee's depot in Bloomingdale Guild, 146 West One Hundredth street, appeared in the May number of the Dietetic and Hygienic Journal.

2. Infants' Milk Depots and Their Relation to Infant Mortality, p. 59 of the Milk Committee's report.

could duplicate on a paying basis among the upper classes what is already being done gratuitously among the poor with a sufficient variation of method to meet the altered demands of his patients, in the opinion of some persons, would be surprised by the success of his undertaking. The work might be extended to include the period of pregnancy, the importance of which is felt by all persons working on the subject of infancy. This would be a practical way of educating the middle class and wealthy mother, requiring only the energy and initiation of the practitioner, assisted as he is at present in other matters, by a trained nurse.

For the mothers of the poor, free municipal education, the foundations of which have already been laid by the New York Health Department, must inevitably be extended. While ignorance as gross as that found among the foreign inhabitants of our overcrowded communities continues to exist, infants' milk depots, because of the natural and tangible hold exercised by them over poor mothers, will prove a valuable aid.

As the problem of the baby's health is largely a feeding problem the proximity to the milk-supply of those who prescribe the food and give the instruction is an important consideration. It is to be hoped that the time will come when milk satisfying the requirements of physicians can be secured at a reasonable cost by all mothers who have need of it; but the value of merely referring such mothers to places where they can get milk will be increased if by daily supervision over them as they come for it, those upsets and irregularities, so often fatal, are immediately attended to. Keeping one's eye on a large group of infants in widely separated homes is a difficult matter. The nurse who sits in a milk depot and receives daily the reports brought from her little patients by those who must come for the baby's daily supply is much better able to feel the pulse of her situation and intelligently to direct her energies than the nurse whose only knowledge is obtained by a separate visit to each infant. When education and social reform have eliminated bottle-feeding, by securing mothers who can suckle at the breast, the milk depot, with its abnormal features, will not be needed. The high mortality among bottle-fed infants urges a campaign of instruction and enlightenment which will accomplish this end.

By carrying to all mothers, then, rich as well as poor, the knowledge how to feed and care for their infants—having the mother at the same time under the supervision of a physician assisted by a trained nurse, who, either on a charitable or commercial basis, supervises the child's feeding and by home visitations and demonstrations, emphasizes the educational features of the work—the problem of infant mortality will solve itself. Eventually, in one form or another, this is what it will come to—mothers will either demand and receive instruction for which they will pay, or will so sorely need it that others, in pity, will supply it free. Whether there is need of coordinating this work of paid or professional instruction with free or municipal instruction is not clear. Here, as in all other educational problems, public and private education will follow the usual lines—education for the many falling more and more into the hands of society as a whole, that is to say, in the hands of the state or municipality, and education for the few confining itself to smaller and more expensive groups.

WANTED—EDUCATORS FOR INFANT WORK

In all this educational work one need of paramount importance has received practically no attention up to the present time. This is the necessity, if we are to educate, of securing properly qualified instructors for our infant work. It is not enough for a few doctors to have carefully studied the infant and its needs. Knowledge on these matters should be more generally extended to all physicians, for however greatly the general health of the community may be elevated and sickness correspondingly decreased, as long as the world lasts, women will become mothers, children will be born, and inexperience and ignorance must be replaced by intelligence and foresight. It will not be enough, if the work is to be educational, preventive, that the doctors know simply the technical side of their problem; they must be instructors, too, able to teach others what they know, and if they labor with the poor, as some of them will, they must also have some idea of those social problems which are not learned in the laboratory and the lecture hall. Consultations may be established, schools for mothers may be founded, instructional work of one kind or another may be ever so carefully conceived and organized, but all, like a boat without oars or a college without professors, will be of no avail unless there are trained instructors to do the work.

The need of educators for infants' work has been particularly emphasized in the work of the New York Milk Committee where few of the nurses and physicians feel fully qualified for the work. It is one thing to feed and care for; another thing to instruct and prevent. Examining and prescribing are matters of individual attention; teaching can also be done individually but experience has demonstrated that the collective or group method is best. And not all doctors are qualified for this class-room work.

What can be done by group instruction, in which emphasis is placed mainly on prevention by education rather than on scientific feeding alone, has been demonstrated by Dr. Ira S. Wile at the committee's milk depot in Bloomingdale Guild, 146 West One Hundredth street. Dr. Wile talks to about thirty mothers of various nationalities at his weekly meeting. As each baby is weighed and examined he comments on its condition, either praising the mother for the manner in which she has followed his instructions or criticizing her for indifference or neglect. These remarks are accompanied by advice and instruction suggested by such incidents or circumstances as may happen to arise, as, for instance, the need of household as well as personal cleanliness, suggested by a dirty baby; the danger of overdressing, suggested by the long red flannel bandages enveloping an Italian baby; the value of breast-feeding, suggested by remarkable gains in weight of a child recently taken off the bottle; the danger of crackers, sugar, beer, tea, etc., suggested by the anemic condition of a child fed on those articles. This information delivered week after week in an entertaining way has wrought a great change not only on the mothers themselves but on the whole character of the neighborhood in which Dr. Wile has worked. Of course not all of the mothers listen all the time, any more than a college student pays precisely the same attention to every word that falls from the mouth of his professor. The total effect of the work, however, is of great value and shows what can be done by a real teacher in work of this description.

Dr. Wile educates at the same time that he feeds, using each mother, baby and incident in the life of each, as an illustration to his text. This method has been criticized because many physicians feel that their work

is of an individual nature and that best results are obtained when they deal with their patients privately. This is undoubtedly true if they are prescribing for patients. It is not true if they are educating to prevent sickness, for that is work of a different nature—educational work to which educational methods must be applied. All persons realize the value of personal, intimate relation between doctors and patients, but after the examination and prescription (if it is quite impossible to do two things at the same time), should come the lesson which teaches and prevents. If the doctor can feed at one time and educate at another, well and good. If he can only feed and not educate, an educator must be secured in addition.

It is because doctors are not educators that this important work is often left to nurses who work under them. Possibly there is a reason for this; possibly women are naturally better fitted to teach other women than are men. I will not say that this is not so (and certainly if it is so, it opens up a new and attractive educational field to women), but the need of physician educators must nevertheless be met. At present these educators do not exist. Physical directors tell us how to care for ourselves but the physician has contented himself mainly with administering pills and medicine to us when we are sick. This the future will surely alter. Prevention by legislation, and social reform are not enough. There must be prevention by education, carried to the masses by the newspapers and magazines and to individuals directly by men and women who employ known methods of educational work. The problem of infant mortality is in its infancy. Taking life at its source, it lays the foundation for all future health and physical efficiency. The doctor who can teach and prevent is the one needed. If there are no educators they must be manufactured; if in no other way by establishing schools of medical and physical pedagogy. For the doctor is the educator of the future; the best knowledge is that which gives life, and gives it most abundantly.

105 East Twenty-second Street

THE PRESENT STATUS OF THE ETIOLOGY OF SQUINT *

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Twenty-five years ago, the theory of Donders as to the causation of squint seemed firmly established despite the objections brought forward at that time by Schweigger, but since then several new theories have been advanced, one of which at least, has secured a considerable following. A study of the various monographs bringing forward theories other than the accommodative one shows that there is a lack of unanimity regarding the essential phenomena entering into the question. Thus one observer (Straub[1]), who believes that a failure of the development of binocular vision accounts for both the hyperopia and the squint, admits the almost constant and important association of the two conditions but has not found that the vision in the amblyopic eye can be improved frequently or materially by practice, and in those instances where parallelism of the visual axes is obtained he finds that only the rudiments of binocular vision have been secured.

Worth[2], the introducer of the theory of the failure of development of the so-called fusion faculty, does not find that there is an undue proportion of hyperopes of moderate degrees among squinters, but he does find that by practice the vision of the amblyopic eye may usually and greatly be improved and binocular vision established.

Bjerke[3] states his belief that a peculiar innervation is the cause of squint, finds in the refractive error only a favoring influence and claims that the amblyopia is primarily a cerebral suppression and for a long time only functional, or we could not have the enormous improvement in vision which follows exercise of this eye. He also finds that binocular vision is so frequently recovered after operation for squint that it could not have been primarily undeveloped and thus the cause of the squint; and he says, further, that many can squint who have excellent binocular vision. The declination and hypertropia theory is brought forward by its sponsor (Stevens[4]) because he found these conditions almost constantly associated with squint and because he found no relation between hyperopia and convergent strabismus.

An analysis of the assertions contained in the above summary shows such contradictions in the findings and in the results of treatment that it would seem that they must result either from bias or from conclusions drawn from too few observations. One author finds constant association of hyperopia and convergent squint; another finds no such association; one finds that the vision in the amblyopic eye cannot often or materially be improved; another finds that not only can vision be improved but that binocular vision can be established by practice; one finds that when binocular vision is secured it is only rudimentary while another finds it so frequently restored after operation that he is convinced that the center for binocular vision could not have been undeveloped.

According to its opponents, the inherent weakness in the accommodative theory is that it is not always high-degree hyperopes who have a convergent squint and that not all squinters are hyperopic.

The fact that some clinicians have not found a greater relative proportion of hyperopia and convergent squint than would be accounted for by actual greater frequency of this refractive condition of the eye, has caused these observers either to discard Donders' theory or to assign but a secondary importance to the refractive error.

Stevens, who believes the causes of convergent strabismus to be the declination of the meridians of the eye and hyperphoria (the latter usually itself the effect of the declination), gives the state of the refraction in 67 of his cases of esotropia. Of this number 23 individuals were emmetropes, 18 myopes and 20 hyperopes. The estimations were made without the use of cycloplegics. He has observed that "in many cases in which during the period of life while accommodation was active, atropin revealed a supposed 'latent hypermetropia,' there has been no indication of hypermetropia when, as the result of presbyopia, years later, the accommodation has been practically abolished." He says that "it thus appears that the mydriatic may cause a condition of apparent hypermetropia, which is not the normal refractive condition of the eye."

He justly holds that the figures given above do not sustain the view that convergent strabismus is caused

* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

1. Etiology of Anomalies of Refraction and the Origin of Emmetropia, Arch. f. Ophth. (Graefe's), March 19, 1909, lxx, 1.
2. Squint: Its Causes, Pathology and Treatment, Philadelphia.
3. Arch. f. Ophth. (Graefe's), Jan. 5, 1909, lxix, 3.
4. Motor Apparatus of the Eye, Philadelphia.

principally by hyperopia but then these figures are at variance with those of all other writers. I do not share in the opinion expressed by Stevens regarding the production of hyperopia by the use of a mydriatic. I have oftener seen a hyperopia develop or an existing hyperopia increase at the time of life when the accommodation is weakened by age. More rarely, a decided rapid increase in the refraction of the eye is seen as the result of swelling of the lens at this same period of life.

I have made a tabulation of 485 cases of convergent strabismus with hyperopia in groups according to the refractive error present in the meridian of lowest error of the fixing eye. This plan was followed in order that the results might be compared with the statistics of Worth which are similarly arranged. In my series, all the estimations were made under cycloplegia produced by a 1 per cent. solution of atropin instilled into the eyes three times daily for from 2 to 5 days. Reference

TABLE 1.—FOUR HUNDRED AND EIGHTY CASES OF MONOLATERAL CONVERGENT SQUINT ARRANGED IN GROUPS

Refractive error in the lowest meridian in the fixing eye.	No. of Cases.	Percentage Whole Numbers.	Refractive error in the highest meridian in the deviating eye.	No. of Cases.	Percentage Whole Numbers.
Not above + 1 D.	48	10		33	7
Above + 1 D, not above + 2 D.	98	20	56%	86	18
Above + 2 D, not above + 3 D.	126	26		96	20
Above + 3 D, not above + 4 D.	90	19	45%	102	21
Above + 4 D, not above + 5 D.	55	11		76	16
Above + 5 D, not above + 6 D.	36	8		43	9
Above + 6 D, not above + 7 D.	20	4	55%	31	6
Above + 7 D, not above + 8 D.	5	1		12	3
Above + 8 D, not above + 9 D.	3	0.6		3	0.6
Above + 9 D, not above + 10 D.	...	..		3	0.6

to the table published by Worth will show that in 66 per cent. of his cases the hyperopia was over 3 D. In my series this group represented 44 per cent. of the whole. In 68 per cent. of Worth's cases the error was higher than 2 D. In mine in 70 per cent. Basing the calculation on the highest meridian of the deviating eye my series shows that in 55 per cent. the error was over 3 D, and in 75 per cent. it was over 2 D. It will be noted that in 10 per cent. the error was over 6 D.

Comparing the above percentages with those in a series of 250 cases of hyperopia without squint, grouped according to the refractive error in the highest meridian, in which the patient sought relief from asthenopia, it was found that in only 10 per cent. was the error over 3 D, and in 27 per cent. over 2 D, and in only 1.2 per cent. was the error above 6 D. There were no cases in which the hyperopia equalled 8 D. In

TABLE 2.—TWO HUNDRED AND FIFTY CASES OF HYPEROPIC REFRACTION ARRANGED ACCORDING TO THE REFRACTIVE ERROR IN THE HIGHEST MERIDIAN

	Number of Cases.	Percentage Whole Number.
Not above 1 D.	50	20
Above 1 D, not above 2 D.	137	54 (92%)
Above 2 D, not above 3 D.	46	18
Above 3 D, not above 4 D.	11	4
Above 4 D, not above 5 D.	9	3
Above 5 D, not above 6 D.	4	1.6
Above 6 D, not above 7 D.	1	0.4
Above 7 D, not above 8 D.	2	0.8

TABLE 3.—FIVE HUNDRED CASES OF HYPEROPIC REFRACTION ARRANGED IN GROUPS ACCORDING TO THE REFRACTIVE ERROR IN THE LOWEST MERIDIAN

	Number of Cases.	Percentage Whole Number.
Not above 1 D.	270	54
Above 1 D, not above 2 D.	150	30 (96%)
Above 2 D, not above 3 D.	61	12
Above 3 D, not above 4 D.	9	2
Above 4 D, not above 5 D.	8	2
Above 5 D, not above 6 D.	1	0.2
Above 6 D, not above 7 D.	1	0.2

a series of 500 cases in which the percentages are calculated on the error in the lowest meridian of either eye it was found that in less than 5 per cent. was the error above 3 D, and in 16 per cent. above 2 D, and in less than 0.5 per cent. was it above 5 D. In the above 2 series the estimations were made either under atropin or homatropin cycloplegia.

Some years ago I tabulated for Dr. William F. Norris 378 cases of convergent squint in reference to the state of the refraction. In 96.4 per cent. there was hyperopia, in 1 per cent. there was anisometropia and in 2.9 per cent. there was myopia. A consideration of the above figures will show that not only is hyperopia the preponderating refractive error with other refractive states in a negligible quantity but that in considerable more than one-half of the cases, when the estimation is based on the highest meridian of the deviating eye, the hyperopia is above 3 D, and slightly less when it is based on the lowest meridian of the fixing eye. They also show that the high errors are of far more frequent occurrence than in non-squinting eyes, outnumbering them 10 to 1[5].

In the presence of a hyperopic error any condition which would reduce the vision of one eye below that of its fellow would act as an exciting factor in the production of a convergent stabismus, and this factor is frequently found in the existence of a higher degree of hyperopia or an astigmatism of a higher degree in one eye than in the other or in an unilateral astigmatism, as shown in the Table 4.

TABLE 4.—TABLE OF COMPARISON OF THE REFRACTIVE ERROR IN THE TWO EYES OF SQUINTERS

	Percentage.
Astigmatism greater in the deviating eye 0.50—1 D.	17
Astigmatism greater in deviating eye over 1 D.	25
Astigmatism greater in fixing eye.	12
Hyperopia greater in deviating eye, 0.50—1 D.	10
Hyperopia greater in deviating eye over 1 D.	20
Hyperopia greater in fixing eye.	2
No difference	10

According to my figures, there is not the close correspondence between the number of hyperopes of over 2 D in squinting and non-squinting patients, found by some clinicians.

Worth admits that hyperopia stands in some close etiologic relation to convergent strabismus, but considers that a defect of the so-called fusion faculty is the cause of the squint. If a defect in the fusion faculty be the cause why is this defect so largely associated with hyperopia of middle and high degrees and not oftener with hyperopia of low degree, emmetropia and non-progressive myopia? In my series, only 30 per cent. of patients had hyperopia of less than 2 D, whereas in hyperopia without squint this amount of error represented 72 per cent.

A fusion faculty which had normally developed up to the time of the occurrence of a squint from disturb-

5. In tabulating the cases which were obtained from the records of Dr. Norris, it was remarked that in the earlier years when less exact methods of determining the refractive error were in use the estimations gave a lower degree of hyperopia than in those obtained from more recent records and this probably accounts for the lower percentage of higher degrees of hyperopia in my series than in Worth's.

ance of the normal relations between accommodation and convergence might lose its function when the need for such had disappeared with the loss of binocular vision. A similar loss of function is seen in the amblyopia of an eye which has been turned. In children convalescing from febrile disorders, and particularly from whooping cough, the power of accommodation is weakened and if the child returns to its books during this period a convergent strabismus sometimes results even though there may be present only a low or moderate hyperopic error. The weakening of the accommodation produces a disturbance of its relation to convergence precisely in the same manner as does a higher degree of hyperopia with a normal accommodative power, and a squint results even at an age when the fusion faculty is believed to be fully developed. The fact that patients with convergent strabismus have been cured by developing the fusion faculty after the method of Worth is taken as proof that a defect in this faculty must have been the cause of the squint. However, the method by which the cure of the squint is brought about consists of many steps and this renders it difficult to decide in what degree any or all are concerned in bringing about the result. The first step is the correction of the existing refractive error. The second is the overcoming of the amblyopia in the turned eye. The third is developing true fusion. The fourth is increasing the amplitude of fusion, during which procedure the angle of the tubes of the amblyoscope is altered in a way that aids in a restoration of the parallelism of the visual axes. The fifth is the further development of the fusion faculty by stimulating it to bring about binocular vision with the sense of perspective under equalized illumination of the objects.

Every clinician has observed how frequently the simple correction of the refraction error relieves the squint, and there is general agreement that Worth's ingenious method of restoring vision in the amblyopic eye is productive of excellent results; furthermore, in increasing the amplitude of fusion something is also accomplished in the way of diminishing convergence excess. So that aside from its purpose in developing the fusion faculty, the treatment must aid materially in restoring the normal relations between convergence and accommodation.

One of the cases reported by Worth is of particular interest. It was that of a child 5 months old with H.—5.5 D in one eye, and 6 D in the other. This child was cured by glasses and an occlusion bandage. Worth's explanation is that by giving glasses and so relieving strain on accommodation the visual axes were in the course of from 5 to 6 weeks brought back to parallelism and this allowed the natural development of the fusion sense to take place.

If it be as Worth says that the fusion faculty was allowed to develop naturally by reason of the visual axes having been brought back to parallelism it follows that if the visual axes had not been brought back to parallelism the fusion sense would not have developed naturally; and this, it seems to me, explains why the fusion faculty is found undeveloped in those cases of squint in which the refractive error has not been early corrected and in consequence of which a convergent squint has occurred. In other words, the undeveloped fusion faculty is a result and not the cause of the squint. The theory of the absence of a normally developed fusion faculty seems best adapted to explain essential alternating squint; that is, a squint which does not evolve into the monocular permanent type but which continues through life as an alternating one, as here, as a rule, the visual acuity and the refraction are not at fault. To me, it would seem that these facts, the absence of an error of refraction and the equal visual acuity of the two eyes, which sustain the theory when it is applied to this class of strabismus, rather weakens the theory when it is sought therewith to explain permanent monocular squint, as this form is so constantly associated with hyperopia and unequal vision (which determines the deviating eye that later becomes amblyopic). It would seem reasonable to suppose that the almost constant feature is the essential causative one.

The perfect correlation of the facts in myopia with divergent strabismus, with those in hyperopia with convergent starbismus, is a strong argument in support of Donders' theory. As the divergence does not occur early in life, but appears only after the developing myopia has produced a derangement of the normal relations which exist between convergence and accommodation, the fusion faculty is found to be well-developed. Notwithstanding this, it is powerless to maintain the parallelism of the visual axes when once the coordination between these faculties has been disturbed.

The theory of Donders is upheld by the following facts: Convergent strabismus is associated with hyperopia in over 95 per cent. of the cases; the average degree of refractive error is very much higher in a series of cases of hyperopia with convergent stabismus than it is in a series of cases of hyperopia without squint; there is usually a difference in the refractive error in the two eyes sufficient to unequalize the visual acuity and thus favor a deviation of the more defective eye; in a considerable number of cases the correction of the refractive error relieves the squint (I believe that this number would be greatly increased if glasses were prescribed as early as the third year of life. Worth has shown that it is perfectly possible for them to be worn at an even earlier age); the fact pointed out by Donders that a convergent squint can be produced by placing before the eye a concave glass; that divergent strabismus is usually associated with myopia and that the same process of reasoning by which it is shown that hyperopia is the cause of convergent stabismus serves to explain the causation of divergent strabismus by myopia.

It appears to me that when one approaches the subject with an unbiased mind and considers the facts as they are, the accommodative theory accords best with these facts and when it fails in individual cases these can well be explained by other known causes of strabismus, such as congenital palsies, structural defects or anomalies, favoring effects of abnormal orbital axes, divergence weakness and congenital amblyopia. I believe, with some other authors, that congenital palsies of the ocular muscles are more common than heretofore supposed and that some of the cases of monocular permanent squint apparently comitant, with normal vision in the squinting eye, are the end results of paralytic strabismus.

I wish to express my thanks to Dr. J. Hiland Dewey and to Dr. D. Forest Harbridge for their kind assistance in the preparation of the statistics of this paper.

1819 Spruce Street.

ABSTRACT OF DISCUSSION

DR. CASSIUS D. WESCOTT, Chicago: One of my revered teachers was fond of saying that "no effect is the result of a single cause." It is quite likely that there are two or more causes, each one evinced, in every case of squint. The multiplicity of opinions held to-day as to the cause of squint would, of itself, indicate the probability of a variety of causes of this defect. It must be true, however, as Dr. Zent-

mayer suggests, that some who have written on the subject "have been influenced by bias, or have drawn their conclusions from the study of too few cases," or, I would add, from a faulty method of study. I think we need not, for example, long consider the opinion of one who studies squint cases without a cycloplegic or who finds 23 emmetropes in 67 cases studied. Mr. Worth's contribution is important, if true, but I cannot avoid the feeling that his studies have been made to establish a theory rather than for the purpose of learning all of the truth about squint. He gets rather careless of his theory, however, when he tells about the little girl of 5 months, referred to by Dr. Zentmayer, cured by glasses "which restored parallelism and allowed the natural development of the fusion sense to take place."

My own experience would indicate that convergence excess induced by excessive accommodation due to hyperopia is a sufficient cause of convergent squint in a very large number of cases. If, added to this, we have defective vision, or more complicated refraction in one eye, we have another potent reason for squint. Dr. Zentmayer's figures are very suggestive in this connection, and he has placed us all under obligations to him for presenting his tables, and bringing this subject before us once more. I believe with him and Dr. Duane that the undeveloped fusion faculty is often a result of squint; that it is ever the sole cause, I very much doubt. We must not forget the anatomic conditions which favor squint. Dr. Risley especially has called our attention to the formation of the head, and the direction of the axes of the orbits in connection with both dynamic and static squint. In accounting for some cases of squint, as well as for the fact that not all hyperopes squint, it is well to remember also the very great individual difference in the elasticity, or amplitude of the relation between accommodation and convergence. It is also quite possible, as Dr. Duane says, that convergence excess with divergence deficiency, and the contrary conditions, are due to central causes. I see no reason why any case of comitant convergent squint should not be alternating, provided vision is equally good, and the refractive error relatively the same in both eyes. The thing that determines constant squint is the low vision, or more difficult vision of one eye. I do not mean to undervalue the labors of Mr. Worth or the assistance he has given us in the treatment of this troublesome condition, but I quite agree with Dr. Zentmayer that the results of Worth's treatment do not prove the correctness of his premises as to the etiology of squint.

DR. G. C. SAVAGE, Nashville, Tenn.: Dr. Zentmayer has presented about the sanest paper on squint that I have ever heard in this Section. The fundamental, underlying essential of binocular single vision is corresponding retinal points. Without this there can be no such vision. I am going to show the fundamental underlying principle of corresponding retinal points, and that its non-existence is the cause of that form of squint which no man has ever yet corrected or ever will correct. At the crossing of the vertical and horizontal meridians is the macula of each eye. Now they should correspond one with the other. Let us begin at the macula on the right side and follow a fiber to the commissure, across the commissure and on until it terminates in a cell of the left cuneus. Then let us trace a fiber from the left macula until it terminates in the same cell of the left cuneus. A double image means a double impression. The double impression carried along these two nerve-fibers to a single cell means a single sensation, and therefore means that the images have been fused. Unless common brain-cell connection exists there is no such thing as binocular single vision. Now, tracing the fibers to separate cells in the same cuneus, or finding that one macula is connected with one cuneus and the other with the opposite cuneus, would mean double sensation and impossible fusion. Corresponding retinal points mean common brain-cell connection. In the absence of common brain-cell connection there can be no fusion. Now we know that we have a case of squint depending on want of common brain-cell connection because of two things: first, the child squints at birth and squints from that time on; second, whether in a child or a youth or an adult or an old person, one eye sees as well as other alone. That I call insuperable squint. You may try to fuse these images only to fail. They will cross or recede. You may get these close together but they will not fuse, because of the want of common brain-cell connection. But suppose you have a case of squint that has occurred in the second or third year. You will find that at the time of crossing or squint the vision in the crossing eye is low. In a few years it is less still, and still lower later on, and finally there is no vision in the squinting eye at all. This is the kind of a case in which there is a common brain-cell connection; but because of the existence of factors that lead to divergence, convergence, elevation or depression, one image must be suppressed by the mind, and the mind begins to suppress it, and keeps on suppressing it until the power is perfected. We can train the blind eye out of its blindness after operating. These are the cases I like to find for the patients can be cured.

The fusion power is a power of the mind. There are fusion centers and over these fusion centers the fusion faculty of the mind presides. Each fusion-center has its own muscle under control, and only one muscle. Now suppose a child is born with common brain-cell connections and there is a disposition for the development of squint. If the eye turns in or out far enough to let the image go beyond the fusion retinal area the eye will stay turned until properly treated. As long as may be possible the fourth basal centers, by acting on the two externi, will prevent the interni from crossing the eyes, but these centers act only when the images are on the fusion area, and thus under the stimulus of the fusion faculty of the mind.

DR. L. EMERSON, Orange, N. J.: It does not seem to me that there is opportunity for controversy between the theories of Worth and of Donders on the etiology of squint. I am very much a believer in Worth's theory. There is without question a fusion faculty, and a point which Worth makes and which does not seem to be clearly understood is that there may not only be an absence of the fusion faculty, but a deficiency thereof. Now as underlying all cases of squint I have never seen one case in which the fusion faculty was not either deficient or absent. There is also the cause, hyperopia, and given these two things, absence or deficiency of the fusion faculty and the presence of a refractive error, you can account for nearly all forms of convergent squint. The deficiency of the fusion sense explains why we have cases of squint in which there are no refractive errors, and there are many of these cases of squint which can be cured by proper methods. The patient has a perfect cure and yet with the stereoscope or amblyoscope it is absolutely impossible to get any fusion up to the second or third grade, showing that there is a deficiency of the fusion sense.

DR. W. ZENTMAYER, Philadelphia: I have no quarrel with Worth as to the existence of a fusion faculty. I do not doubt that it exists, and I do believe that its absence may be the cause of certain cases of convergent squint.

THE NORMAL VARIATION OF THE SYSTOLIC BLOOD-PRESSURE

A STUDY OF ONE THOUSAND CASES

H. P. WOLEY, M.D.
CHICAGO

The practice of taking blood-pressures in insurance examinations has become comparatively common in the last few years. The question was soon asked, What is the normal blood-pressure? Is the blood-pressure different at different ages and, if so, what is the difference? We all know that the pulse may fluctuate between certain limits, say 60 to 85, and still we would not hesitate to say that a person within those limits was in health. If it is beyond either limit we would make a further study of the case, fearing that it might be a pathologic condition.

The medical examiner, from an insurance standpoint, is in the opposite position from the general practitioner in his office, for the latter is dealing almost entirely with cases in a pathologic condition, while the insurance medical examiner is dealing with healthy persons and trying to find out how far their cases may deviate from the normal, typical case and still be healthy and a first-class risk. He is trying to establish boundary lines, a high mark and a low mark, within which an applicant may be safely considered in health, and outside of which he would be looked on with suspicion.

With these ideas in view I have collected, during the past three years, the records of 1,000 blood-pressures, all of supposedly healthy individuals. There has been excluded every case of kidney disease, heart disease, and in fact, every case in which there was a pathologic condition found, either from physical examination or from the history. These cases represent typical healthy individuals, ranging in age from 15 to 65. These records were all taken by five different physicians. Often they were taken by two physicians working together. Again, records were made at the same sitting with two different instruments: for instance the mercury column and the Collins or the Dr. Rogers' Tycos sphygmomanometer. From time to time the instruments were corrected or standardized by subjecting them to the same pressure and then the readings taken. This was done by using the usual 5-inch cuff, but one having several openings or rubber tubes, to each of which a sphygmomanometer was attached. When the pressure was raised in the rubber bag, an equal pressure was made at the same time on every instrument. This was done to reduce the liability of error and insure as far as possible an accurate and uniform reading. All of the results herein recorded were made by using the 5-inch cuff about the arm, with the subject in the sitting posture, and the systolic reading taken at the point at which the pulse disappeared and reappeared, with the finger on the radial artery.

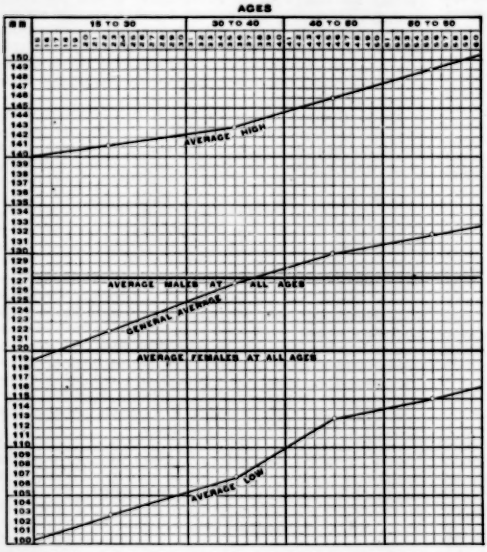


Chart showing the normal limits of variation in systolic blood-pressure.

From comparison and study of many cases during the last five years, I believe that, at any age, a constant blood-pressure of 160 mm. or over is pathologic, and therefore should be excluded from forming any part in the results or conclusions reached in this paper. Many of these cases have been studied, where it was possible, and albumin and casts have been found in the urine sooner or later, though sometimes in small amounts. It explained the condition, however. This has been of considerable assistance, for many risks might have been accepted as first-class, were it not for the abnormal elevation in blood-pressure, which led to a further study.

Experience has taught us that the selection of a single individual's blood-pressure, as a high mark or a low mark, would be manifestly unreliable, while it is equally certain that the general average of a group of blood-pressures would be pretty nearly the truth. The larger the group the more accurate the results. It is found to be practically correct in considering vast numbers of supposedly healthy individuals that about 85 per cent. prove to be healthy and 15 per cent. are questionable. Following this principle, I shall take the general average of the group of 15 per cent. of the highest blood-pressures and the general average of the group of 15 per cent. of the lowest blood-pressures, and designate them as the average high and the average low blood-pressure.

With this explanation, the results reached after a study of 1,000 blood-pressures are as follows:

The average blood-pressure for males at all ages was 127.5 mm.

The average blood-pressure, for females, at all ages, was 120 mm.

By taking them in groups, first, from ages 15 to 30, the average blood-pressure was 122 mm. An average high blood-pressure of 141 mm., and an average low of 103 mm.

Second, those from 30 to 40 years of age gave an average blood-pressure of 127 mm. An average high of 143 mm., and an average low of 107 mm.

Third, those from 40 to 50 years of age gave an average blood-pressure of 130 mm., an average high of 146 mm., and an average low of 113 mm.

Fourth, those from 50 to 60 years of age gave an average blood-pressure of 132 mm., an average high of 149 mm., an average low of 115 mm. These are best shown by the accompanying chart.

By looking at the chart it will be noticed that the maximum and minimum blood-pressures are about equally apart from the average blood-pressure at a given age. It can also be seen at a glance what the average blood-pressure with its maximum and minimum marks should be at any given age from 15 to 60. There is a gradual rise in the blood-pressure as the years advance. There is also a corresponding rise in the high and low averages. It can be readily seen that between 50 and 60 years of age a man giving a blood-pressure of 145 mm. could undoubtedly be accepted without further question, while a man under 30 years of age giving the same blood-pressure would present a case for further study and investigation.

In regard to women, it will be noticed that the average blood-pressure at all ages was 120 mm., about 8 mm. below the average in males at all ages. There is practically the same ratio of increase in blood-pressure in

women as in men at the same age. In women it averages 8 points below the men.

It is a source of regret that the number of cases above the age of 60 proved to be too small to obtain a fair average. There appeared, however, to be quite an advance in blood-pressure above the age of 55. Therefore, I have selected the group from 55 to 65, which gives an average blood-pressure of 138 mm., an average high of 153 mm., and an average low of 120 mm.

There are a few points worthy of notice that might be mentioned here, namely, in regard to the pulse—rapid or slow. The average blood-pressure in all cases with a pulse under 65 was 123 mm., while the average blood-pressure in all cases with the pulse over 85 was 130 mm. It was also noticed that there were twice as many healthy individuals with a pulse over 85 as there were with a pulse under 65.

It was the desire in making the above study to obtain as far as possible the normal variation in blood-pressure in health, which would be of practical service, not only to the insurance examiner, but to the general practitioner. It would not have been sufficient to accept the blood-pressure alone; therefore, physical examination of every case was necessary in order to exclude all of those who were in any way impaired, thus leaving, as far as it was possible, typically healthy individuals.

171 LaSalle Street.

THE ADVANCEMENT OPERATION IN SQUINT *

VARD H. HULEN, A.M., M.D.
HOUSTON, TEXAS

Teachers of ophthalmic surgery have long advocated the more frequent performance of advancing and shortening operations, and some do them exclusively in preference to tenotomy for strabismus, but I believe that most of us are still very largely doing tenotomies. It must be that none of the various methods of advancement are considered entirely satisfactory, the simpler operation of tenotomy being more frequently chosen, hoping thereby to obtain an acceptable result.

Most ophthalmologists will agree that the advancement operation is more certainly corrective, physiologically more scientific, and functionally safer than tenotomy, and it is my conviction that a tenotomy alone should rarely be done in any case of squint.

A rather extensive observation of the work of various operators, including repeated visits to many of the large European eye clinics, convinces me that the ideal advancement operation has not yet been presented. There are certain requisites for this ideal operation, as they appeal to me:

First, the method must be simple and expeditious in order that the average patient may submit to it under local anesthesia and that the average operator may use it satisfactorily.

Second, when the operation is done under general anesthesia the determining sutures should be under such subsequent control that any possible deviation may be easily corrected when the true position of the eyes is ascertained.

Third, the scleral suture should not depend in the least on the episcleral or conjunctival tissues for its support.

Fourth, one suture firmly introduced into the sclera is sufficient and it should be placed with the tendon insertion in view and before the muscle has been severed.

Fifth, the suture in the tendon must be firmly lodged to avoid a tendency to give or cut out, yet it must not be looped or knotted to the muscle, which would impede the vascular supply of the tissues involved and also make its removal difficult, thereby endangering the satisfactory adhesion of the tendon to the sclera in its new position.

Sixth, and this is very important, the tendon and globe should not be pulled into the position for fixing by the process of tying the sutures.

An old surgical law, the observance of which is particularly important in ophthalmic surgery, which forbids that tissues be pulled into position by the sutures, is broken in nearly all the methods for advancement known to me. Traction aids will eliminate the operator's agony from broken sutures or cut and strangulated tissues due to vain efforts to obtain the desired position by straining at knots already tight.

Apropos of these statements I beg to describe an advancing and shortening operation which I first did five years ago and which, with slight modifications, has since

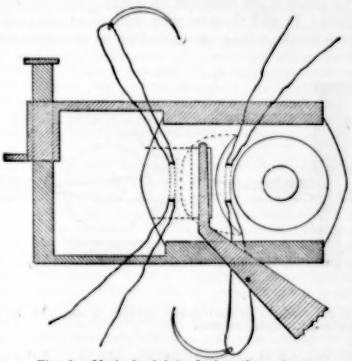


Fig. 1.—Method of introducing the sutures.

seemed to have fulfiled my requirements. Reference to the two accompanying diagrammatic illustrations will render a minute description unnecessary. Figure 1 shows the method of introducing the sutures; Figure 2 shows the position of the traction sutures in use and the method of knotting the fixing sutures.

The necessary instruments are two No. 28 full-curved sharp flat needles threaded with No. 6 iron-dyed black silk, the needles being placed in the middle of the sutures, a needle holder, fixation forceps, a strong pair of advancement or muscle forceps, tenotomy scissors, and a speculum; a strabismus hook is often useful.

The procedures are the same for either the internal or external rectus. After complete anesthesia, local or general as the case may require, the speculum is introduced, the conjunctiva pinched up and incised vertically about 4 mm. from the cornea; the incision is extended above and below parallel with and corresponding to about one-third the circumference of the cornea, and the conjunctiva separated toward the cornea and the site of the tendon. Next the tendon is loosened along its upper and lower margins and clamped close to the scleral insertion with the muscle forceps, including the

* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

distal margin of the retracted conjunctival wound. The globe is held in perfect control with the muscle forceps, and, the tendon insertion being completely exposed, the scleral stitch should be accurately placed. The conjunctiva is first entered from without inward, then with the needle firmly grasped in the holder the suture is inserted vertically into the sclera close to the limbus, taking as deep and wide a bite as is safe, and the double suture drawn half-way through, again penetrating the conjunctival flap.

The tendon is next severed from its attachment, all the tissues as held in the jaws of the forceps are lifted and stretched into position for placing the second suture; the needle is made to penetrate from without inward through conjunctiva, Tenon's capsule and muscle at a point one-fourth the width of the muscle from one edge and as far back as we may wish to advance, the doubled suture is pulled half-way through and the needle is reintroduced at the corresponding point from the other border penetrating, from within outward, muscle, check ligament and conjunctiva.

The muscle forceps are then cut loose by severing the tissues as far from the jaws as one wishes to shorten, but not close enough to the suture to weaken its hold.

The needles are removed by cutting the sutures close to them. It will then be seen that there are really two sutures in the sclera and also two in the muscular tissues. One of the scleral sutures and one of the muscle sutures are crossed and used during the tying part of the operation for traction purposes only. The assistant has perfect control of the globe and the muscle by means of these traction sutures, and when he has brought them into the exact position required for correct fixation the operator ties loosely with a double twist the upper ends of the other sutures, the lower ends of those sutures are similarly tied, then he tightens the upper knot, now the lower one, and so on until the proper tension has been secured; each knot is then completed by the final twist, and the operation is practically finished. Supplementary conjunctival sutures will rarely be required.

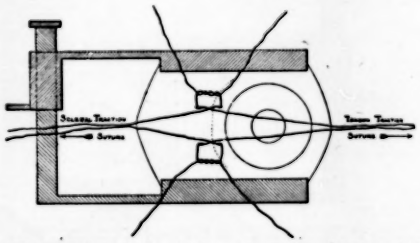


Fig. 2.—Position of the traction sutures in use, and the method of knotting the fixing sutures.

Many details and important points not here described will readily occur to the surgeon performing this operation, or are common to all similar procedures.

Under general anesthesia, we cannot be sure of the correction, and it is one of the decided advantages of this method that the sutures used for traction can be left *in situ* until consciousness is regained. I usually allow them to remain until the following day, and if the squint has been materially over-corrected the tied sutures are removed, and the traction sutures are used to fix the eye in its correct position with but little discomfort to the patient or embarrassment to the operator.

At the conclusion of the operation done under local anesthesia we can be satisfied to remove the traction sutures immediately.

Also, should the surgeon prefer in any case to do the "tucking operation," the method should be precisely the same as described, except that the tendon is not severed, the muscle forceps are simply unclamped (the scleral suture will have been placed further from the limbus) then, when the traction sutures are used the muscle is smoothly folded on itself and any desired tension or position fixed by knotting the other sutures as in the strictly advancing operation.

Both eyes are bandaged and the patient is kept quiet. In five or six days the sutures are removed by cutting the upper one to the nasal side of the knot and the lower suture to the temporal side of its knot, or *vice versa*, and lifting them out.

It might be added that in doing this operation under general anesthesia, especially in marked squint, in which I combine it with tenotomy of the opposing muscle, a control suture is introduced through the tenotomized muscle and its stump.

In this method of advancing an ocular muscle attention is directed particularly to its simplicity, to the minimum amount of traumatism to all tissues, to the accuracy possible and security obtainable from the method of anchoring the scleral suture, the vertical introduction is decidedly advantageous, to the efficient "bite" of the tendon suture looped across the under surface of the muscle, to the perfect control of the parts to be united by means of the traction sutures which were obtained without additional suturing, and to the advantage of having already at hand a perfectly placed pair of sutures to be used, if required, for correcting any over-effect following the primary operation.

Scanlan Building.

ABSTRACT OF DISCUSSION

DR. H. H. BRIGGS, Asheville, N. C.: The great variety of principles and methods employed in shortening an ocular muscle is sufficient evidence that no one method satisfies even the majority of ophthalmic surgeons, or is adequate for the correction of the various types and degrees of heterotropias with which the clinician is constantly confronted. Were there one and only one exact and best method of changing the anatomical relationship, and therefore the physiological effect, of an abnormally acting muscle, surely some one of our confrères of to-day, not to mention the great ophthalmologists who have gone before, would have discovered it. Even as it is, we have graduated tenotomists, partial tenotomists, tendon stretchers and tendon tuckers. If no operation for advancement had ever been made, and if one familiar with the anatomy and physiology of the eye, and surgical technic, should be required to devise a method of advancing or shortening an ocular muscle for the correction of heterotropia, I fancy he would reason thus:

1. It must be done without danger to the vision and with the least possible chance of infection. In these days of aseptic surgery we expect healing without infection, but in wounds made in mucous membranes we can never be absolutely sure of this, and to this end the amount of suture material and the number of knots should be reduced to a minimum consistent with efficiency, and the dissection also should be limited to that barely necessary to accomplish the advancement. 2. It must be effective; that is, the globe must be rotated to and maintained in such position as is necessary to transpose the visual axis as nearly as possible to the primary position after convalescence. The advanced tendon, in case of advancement, or the shortened tendon or muscle in case of resection or tucking, must be held firmly *in situ* and maintained in position until adhesion takes place. 3. The cosmetic effect must be good. The eye is the most beautiful of all the organs, and its

beauty must be guarded. The purpose of advancement is to improve the appearance, and straightening the eye is practically all that is ever accomplished, binocular single vision and fusion being seldom ever acquired, and an ugly scar from reckless mutilation of conjunctiva and Tenon's capsule and from redundant sutures and knots may be worse than the squinting eye, otherwise beautiful.

The object of advancement is to change the direction of the visual axis of a squinting eye back to a position parallel to that of its fellow eye, or to its primary position. To accomplish this, we change the point of application of a force which rotates the globe by acting as a fulcrum about the center of rotation of the eye. This force is the muscular force, and acts in a somewhat variable tangential plane to the globe toward the origin of the muscle. The tendinous insertion, or point of application of the force, is a variable point as compared to its origin, which is fixed, and which cannot be changed. The insertion after tenotomy or resection may be transferred forward or the same physiological effect may be had by tucking or looping the tendon without molesting its insertion.

It is difficult to discuss a method of operation without having first tried it, and I am sorry I have not had the opportunity to try that of Dr. Hulen. It has the same features as do all operations where tenotomy and resection are used, and the disadvantage over the shortening methods without tenotomy—the possibility of not advancing the muscle along a meridian of the eye directly forward from the original insertion. This may result from not placing the scleral sutures in the proper position at first or by the suture of one side cutting through, leaving the attachment more on the other side of the tendon than intended. His method has the advantage of one suture, or practically one, and of being placed previous to the severing of the tendon. The counter tension on tendon and globe by the sutures inserted is rather unique, and I should think very serviceable and convenient.

DR. G. C. SAVAGE, Nashville, Tenn.: I want to congratulate Dr. Hulen on his suture and condemn him on cutting the muscle. If he had not cut the muscle, but pulled it forward and tied his sutures, they would have held it in contact with the ball and it would have been a beautiful Lagleize flat advancement operation. I think if Dr. Hulen will turn to Norris and Oliver, or turn to a smaller book of mine, he will find the Lagleize operation described and then he will cease to cut that muscle in two. I did this operation ten or fifteen years ago without cutting the muscle, the thought occurring to me just as I was about to cut the tendon, and seeing the beautiful results following claimed the operation for myself, but I found that Lagleize had done it before, and I immediately gave credit for the operation to Lagleize. In connection with this operation, and any other stitch operation, let me advise you to tie your suture over a Price suture plate. It will not excite any additional irritation and it will be the easiest suture removed that you have ever seen.

DR. F. C. TODD, Minneapolis: While I believe in the tucking operation and prefer not to cut off the loop of tendon, and believe that can be best attained by an instrument which one may have under his control, yet it is evident to me that there are some valuable features in this operation, as, for instance, the vertical suture. The objection which I wish to point out to this operation is the fact that the pull is along the fibers of the tendon so that the degree of effect produced cannot be thoroughly controlled. The fibers of the tendon going toward the cornea, the thread then to be pulled in the direction of the tendon fillers, will cause the thread to cut through and it may give way entirely. I would suggest that this objection can be overcome by inserting a suture in the edge of the tendon in the manner I do with my tucking operation, using a catgut suture which will be absorbed, so that when tied at right angles to the direction of the tendon fibers it will bind them together and then the silk sutures may be inserted back of them and thereby the silk sutures will pull against the already tied catgut sutures and so will not cut or slip. Thus there will be an anchorage against which to pull, and a more definite and permanent control over the tendon.

DR. MARK D. STEVENSON, Akron, O.: There are many things about this operation that commend it. The simple use of traction sutures is unique and helpful. The needle and doubled thread must be forced through each suture canal in every case so there is no reason why both threads should not be used. If the thread is oiled before use by some sterile ointment, it will slip through the canal more easily, will absorb and carry less fluid into the canal, with less likelihood of infection, and the two threads will occupy the canal space better than one. If one of the threads should break, the other can be used to fix the muscle on the globe. In a paper, "A Secure, Looped, Single-Stitched Advancement Suture, with a Consideration of Scleral Anchorage" *(Ophthalmology,* July, 1906*)*, I described the best position of scleral anchorages. The sclera is thickest quite near the cornea and at the muscle insertion, being thinner between these two points. I described in a paper before this Section in 1905 the single vertical suture canal, where the pull of the suture is against the side of the whole canal and not merely against the shelving anterior edge of a horizontal canal which is much more likely to be cut through by the suture. The scleral suture should be made strong enough, but anyone who will make these sutures through pigs' eyes will be alarmed to find how many of them go entirely through the sclera. I think Dr. Hulen's hold on the muscle tendon inadequate, except where low degrees are to be corrected. It could be improved by a loop on upper and lower threads of tendon, the cross part of the loop assisting in grasping the tendon fibers so as not to cut between them so readily, and also to support the traction parts of the suture.

DR. JOHN GREEN, JR., St. Louis: If I may be permitted to speak on the basis of a single experience with this operation, I may say that the operation appeals to me as being decidedly simple. The scleral suture can be easily and exactly inserted as the tendon insertion, which serves as a landmark, has not been interfered with. In the second place, the placing of the tendon suture is equally easy. The most gratifying feature of the operation is when you ask the assistant to draw on the traction sutures, you will be surprised and gratified at the ease and exactness with which the tendon is brought into position. Finally, after the operation is completed, the apparent traumatism is hardly any greater than after a simple tenotomy.

DR. E. C. ELLETT, Memphis: It has been demonstrated recently that in these operations where the tendon of the muscle is advanced you do not advance the true attachment of the muscle at all. The muscle attaches itself solidly to the globe from the point of the new attachment clear back to where it was cut from the sclera and the true new point of attachment is the old point of attachment. You have merely shortened the muscle. If that is true, and it has been demonstrated anatomically to be true, it seems to me a great deal would be gained by abandoning this scleral anchorage altogether and fastening the stump of the cut muscle at the site of the original insertion, which is very much easier to do.

DR. VARD H. HULEN, Houston, Tex.: If Dr. Savage has time to read my paper, he will find that I have described the procedure to which he refers, and in some cases of heterophoria, where a large effect is not necessary, I might recommend this looping operation; you can easily do it by placing and tying the sutures without severing the tendon. I have used this plan and like it in just these cases.

Dr. Todd, I think, will find that by putting the tendon suture in vertically and, as I have described, the loop under the tendon will give efficient friction clear across, and there is no tendency for the suture to cut out.

Dr. Ellett may be correct when he says the tendon is not ultimately advanced beyond its original insertion. But we know the action of these operations is principally mechanical, and certainly by introducing the suture far forward in the sclera you can get a much greater effect than by putting it in at the site of the original insertion of the tendon, and we may thus get the desired result with less sacrifice of the tendon itself. Wherever you have great disturbance of the tissues underlying the tendon, or of the tendon itself, you may get adhesions and thus fail to advance ultimately the insertion. One of the great advantages of my plan is that of putting the sutures in the sclera before severing the tendon, as you know where the insertion is and can judge the correct site for the new insertion, and not get it too high or too low.

I am much gratified that Dr. Green has tried this operation in one case since the appearance of the presessional reprints and can here testify to the great usefulness of the traction

sutures. If the sclera is thin, the scleral suture must not be placed too deeply, and to broaden the loop the suture may be entered twice, thus increasing the distance between the entrance and exit of this suture, so that the tendon will not be bunched when the fixing sutures are tied.

A NEW CARTILAGE KNIFE FOR USE IN THE SUBMUCOUS RESECTION OF THE NASAL SEPTUM

ALFRED N. MURRAY, M.D.,
CHICAGO

To obviate the danger of perforating the opposite mucous membrane when making the initial incision in the cartilage in the submucous resection of the nasal septum, I have devised a simple blunt knife not unlike a number of other knives used in various fields of surgery, which reduces the chances of this accident to a minimum. While it is true that in experienced hands the sharp knife can be used with comparative safety, many who do this operation are not so skilled, and not infrequently produce perforations. Even in the case of the skilled operator, however, the use of this protected knife will greatly simplify the making of the initial incision in the cartilage. A description of the manner of using the instrument will demonstrate its simple principle and the ease with which it is adapted to its purpose.

Having reached the stage in the operation where the cartilage is to be incised, the incision is begun in the ordinary way with the sharp knife, the finger being placed in the opposite nostril to feel the point of the knife as it penetrates the cartilage. The incision, however, is made only 2 or 3 mm. long, or just sufficient to admit the dissector point of the blunt knife. When this is in position the knife is moved at will along the line of incision, dissecting the mucous membrane of the opposite side in its course and incising the cartilage at the same time. Thus the dissection of the opposite mucous membrane is also already begun when the incision is completed.

A new cartilage knife for use in the submucous resection of the nasal septum.

Some little difficulty may be experienced in first introducing the knife, but I have found that by placing the dissector point at right angles to the line of incision and working it under the mucous membrane of the opposite side, one soon has ample space in which to direct it properly and start the incision.

The knife is, of course, not adapted to all cases, or to work far back in the nose, its especial use being to make the primary incision in the cartilage.

100 State Street.

PRELIMINARY REPORT OF WORK ON CLOT-CULTURE

LOYAL A. SHOUDY, A.B., M.D.
Senior Resident Pathologist to the German Hospital
PHILADELPHIA

After reading the work done by Gaffky, Durham, Gruber and others with the *Bacillus typhosus*, noting the dilutions to a greater or less degree, for the purpose of lessening the inhibitive power of the serum, the idea came to me that the blood-clot was the essential part in the growing of organisms from the blood. Accordingly after doing the Widal agglutination test in a case that was not a clear enteric, I was prompted, after the removal of the serum from the Widal tube, to put the small remaining clot in a tube of bouillon. This I incubated for twelve hours and then examined by means of the hanging drop. I noted many organisms morphologically characteristic of the *Bacillus typhosus*. From this tube I inoculated a tube of litmus milk, one of agar slant, one of potato and a stab of glucose agar and incubated over night. On examination the following morning I noted that the growths were all typical of typhoid.

Next day I did the same in five other cases with like results. The Widals had been collected in the ordinary manner and I was not surprised to find growths of *Staphylococcus albus*. I plated my growths and again inoculated, using litmus milk, agar, glucose, potato, lactose and litmus lactose with the same results. Later I tried the agglutination test on my recovered organisms. They clumped and I was satisfied that I had recovered the *Bacillus typhosus* from the clot.

I was at once struck with the simplicity of the method and have since tried it in sixteen other cases with equally good results, each time obtaining a growth of the *Bacillus typhosus*.

In all but three cases the Widal was positive. In two of these three cases a positive reaction was obtained later but not to date in the third. Another feature of this third case is the fact that a blood-culture taken in the usual manner gave a negative result, being sterile. In a number of these cases I obtained the organisms before a positive Widal reaction was secured.

My technic to date is to sterilize my Widal tubes and blood-sticker, wash the finger or ear carefully (in the usual way, with mercuric chlorid, etc.) collect the blood, seal the tube, shake the blood to the opposite end, place in the centrifuge for fifteen minutes or until the serum is separated, break open the tube and by means of a sterile pipette remove the serum, remove the clot and place it in a tube of bouillon, incubate twelve to twenty-four hours and then plate, inoculate, and identify the organisms. My series of twenty-one cases extends over a period of two months and with positive results in each case.

I am sure that with care one can secure negative results or sterile cultures, where the blood contains no organisms, because I have done so in three cases as a check to my work in the laboratory.

In three cases I have made a hanging drop of normal salt solution and inoculated this from the clot and noted organisms morphologically characteristic of the typhoid bacillus; and later cultures proved them to be such. I have also tried collecting the blood in a 0.2 per cent. solution of sodium citrate to prevent the clotting and compared results.

On this I will report later. At the present time I am working with cases of general infection other than typhoid with the idea that the clot is the essential part for culture work. I feel that this method of culture by clot, however obtained, will simplify blood work in general and typhoid in particular.

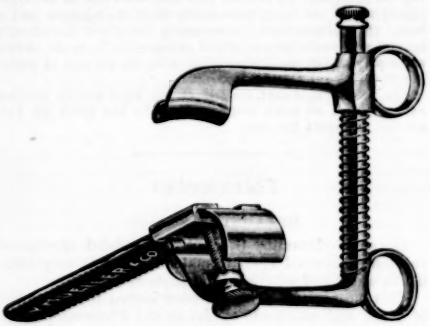
This is but a preliminary report of the work now being done in the laboratory of which I will give a complete account in the near future.

A NEW COMBINATION MOUTH-GAG AND TONGUE-DEPRESSOR

F. H. BRANDT, M.D.
BOISE, IDAHO

Because it is almost impossible for an assistant to hold the tongue down properly in operations on the throat, under general anesthesia, without being in the way of the operator, I have designed an instrument, of simple construction and easy to adjust, which keeps the tongue out of the field of operation. The objection to similar instruments now on the market lies in the impossibility of removing the tongue-depressor without taking out the mouth-gag also. This is important, as conditions may arise during an operation which necessitate the immediate removal of the tongue-depressor.

The mouth-gag is the well-known Stubbs-Murdock model, to which I have attached the tongue-depressor, working on a swivel joint, which accommodates it to the base of the tongue, so hard for an assistant to hold down. As seen in the illustration a set-screw is fastened to the lower teeth-plate which controls and fastens the tongue-blade at any angle desired, and it is not necessary, in order to remove the tongue-depressor,



A new combination mouth-gag and tongue-depressor.

to touch or unfasten the set-screw. The main feature of the instrument lies in the readiness and ease in which it can be introduced, adjusted to the base of the tongue and instantly removed.

THREAD WORMS IN THE APPENDIX

REPORT OF TWO ADDITIONAL CASES

J. M. ALLEN, M.D.
ST. JOHNSBURY, VT.

A few months since I reported the finding of thread worms in the appendix of a young girl. I now wish to add two additional cases of this somewhat rare condition.

CASE 1.—Dec. 11, 1909, while operating on a boy aged 4 for a right inguinal hernia the appendix was found in the hernial sac, and was, of course, removed. On opening it there were found eleven thread worms.

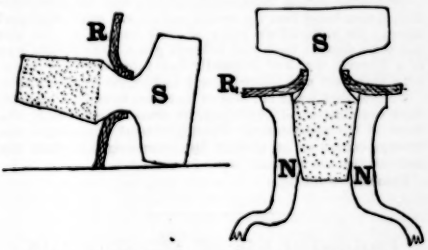
CASE 2.—Jan. 15, 1910, a girl aged 14 was presented for operation by Dr. F. E. Farmer of this place. The patient gave a history of one sharp attack of appendicitis over a year ago, and several attacks of colicky pain at intervals since that time. The last attack occurred January 12. There was no rise in temperature nor increase in pulse rate but there was great tenderness and pain in the region of the appendix. The appendix was removed January 15 and appeared to be full of fecal matter. On opening it there were found a ball of thread worms in the distal end and several single worms along the walls. There were no gross changes in the walls, and it seems reasonable to suppose that the movement of the worms excited spasm of the appendix and the pain was caused in this way.

All of these cases were seen by my assistants, Drs. W. B. Fitch and F. E. Farmer.

A SIMPLE AND INEXPENSIVE DEVICE TO PREVENT THE CONTAMINATION OF STERILE SOLUTIONS

A. G. BETTMAN, M.D.
Demonstrator of Histology, Medical Department, University of Oregon
PORTLAND, OREGON

Sterile solutions are often put into carefully sterilized bottles, closed by sterile stoppers and then set away. By the time the solutions are to be used dust has collected on the lips of the bottles and in pouring out the contents the germs are washed off and the solutions are no longer sterile. Wiping the top of the bottle, at best, removes only part of the germs and drops the rest of them directly into the bottle. Then the stopper is laid down on some unsterile surface and, loaded with microorganisms, is returned to the bottle.



Sectional view of glass stopper with protective rubber collar attached. S, stopper; N, neck of bottle; R, rubber collar.

To obviate this I have devised a simple inexpensive device, so simple, in fact, that I hesitate to present it. From a piece of heavy rubber sheeting (that from a hot-water bottle answers best) cut a round piece, of such size that when placed over the mouth of the bottle the edges project somewhat. Then cut a small round hole in the center, of such size that the rubber is with some difficulty slipped over the stopper. When the stopper is now returned to the bottle the rubber covers the lip and extends a little beyond, thereby keeping off all dust. Evaporation of the bottle contents is also prevented.

A third advantage, and probably the greatest, is that the stopper may be laid down without the inner end resting on the unsterile table, as the rubber acts much the same as the rest on a carving knife. This device may be used for stoppers of any size, shape or material by varying the size of the rubber and of the hole. For an ordinary eight ounce perfume bottle I cut the rubber a little larger than a silver dollar and the center hole not over ¼ in. in diameter.

I believe that many stitch abscesses might be prevented by using this device on suture containers and on dressing jars; druggists could adapt it to advantage.

392½ Sixth Street.

EXCESSIVELY HIGH TEMPERATURE IN A CASE OF INCIPIENT PULMONARY TUBERCULOSIS

O. H. BROWN, M.D.
ST. LOUIS.

The patient in this case was in the Missouri State Sanatorium for from twelve to fourteen months. One morning, a year or more ago, the nurse brought a thermometer to me complaining that she could not tell where it registered. She said that this happened every time she shook the mercury down and returned the thermometer to the mouth of this particular patient. The nurse also complained that the patient had bitten the bulb off from one or two thermometers. On examining, I found that the mercury extended nearly to the free end of the thermometer. I was aware that a patient sometimes plays a trick on the nurse by holding the mercury bulb in the steam-jet of the radiator, so I took the thermometer and placed it in the patient's mouth and stayed by her side. Soon the patient complained that the thermometer bulb was broken in her mouth. So it was, but the mercury also filled the tube nearly to its free end, and she had not bitten the glass.

Thinking that it might have been the fault of the thermometer, I tried another, and with each the mouth temperature registered 109 to 110, or higher. The patient's rectal and arm temperatures were both normal. This observation was made on several different days. On one occasion only, and this several days after the high mouth temperature ceased, the patient's rectal temperature registered about 108.

On seeking for an explanation for this singular manifestation, it was found that the patient had several small sublingual ulcers. No bacteriologic study of these was made. She also had some decayed teeth and inflamed gums. The patient was of a hysteric type and frequently had pains and other symptoms that were unexplained except as hysteric manifestations.

I regret that I was not able at that time to make a bacteriologic examination of the ulcers, as these were possibly the cause of the phenomenon. The high rectal temperature was perhaps caused by an ulcer of the rectum against which the bulb of the thermometer came in contact.

Humboldt Building.

PROLONGED USE OF EPINEPHRIN IN ASTHMA

J. N. HALL, M.D.
DENVER

Patient.—A physician of unusual enterprise and intelligence, aged 35, an athlete weighing over 200 pounds, contracted whooping cough in May, 1903, and during convalescence from this disease began to suffer for the first time with bronchial asthma. During the summer nasal polypi were removed from the region of the middle turbinate, with much aggravation of the asthma. During the next year he was treated by prominent physicians in two of the largest American cities and in Liverpool and London, more polypi being removed in the latter city. The asthma became progressively worse so that the patient came to Denver a complete invalid in October, 1904. He had at this time no free interval of over an hour, and slept in the upright posture.

Physical Examination.—This showed pronounced general asthmatic wheezing. There was marked dulness over the upper sternal region and the voice and respiratory sounds on the right were decreased in intensity. I believe that these phenomena were due to enlargement of the tracheo-bronchial glands.

Treatment and Course of Disease.—I recommended a trial of a 1-to-1000 epinephin solution hypodermatically. The first dose of 8 minims in half a minute gave the first absolute relief from the asthma and the terrible mental depression from which the patient suffered. The tenacious mucous secretion was loosened and expectorated at once. The relief lasted two or three hours, and the patient thereafter took the remedy whenever symptoms of the return of the paroxysms appeared. During the past five and a half years he has taken about 200 ounces of the solution, at times taking from 40 to 60 doses hypodermatically in a twenty-four-hour period, generally 5 or 6 minims at a dose. He progressively lost weight until he stood at 114 pounds in January, 1910. Without any change in treatment or other circumstances which might explain it, he suddenly began to improve, and the asthma entirely disappeared in six or eight weeks. He weighs today 185 pounds and is apparently entirely well. He has, of course, stopped the epinephrin.

Attention is called to this case on account of the phenomenal amount of epinephrin used. The reports from clinical laboratories led me to fear serious damage to the arteries and heart from the long-continued use of it. The blood-pressure is normal (135 mm.), heart and arteries entirely negative, urine free of albumin, and general condition absolutely good, so far as careful examination can demonstrate. Dr. Henry Sewall confirmed these findings, and Dr. E. W. Stevens examined the retinal arteries and reported them negative as to the presence of arteriosclerosis. The dulness in the upper sternal region has disappeared. No emphysema is present.

The patient has had three attacks of suddenly developing, intense distress with emesis, headache, involuntary evacuations and profuse perspiration, and tense wiry pulse after taking his medicine. He believes that they were due to too rapid absorption of the drug, presumably from its entrance into a vein. He concludes that the remedy is best given diluted with normal saline solution and placed so superficially in the tissues as to prevent too rapid absorption, with the purpose of avoiding the frightful attacks described.

The patient exhibited himself at our local society meeting and attracted so much attention that he has given me permission to report his case.

Therapeutics

HEXAMETHYLENAMIN

Hexamethylenamin, U. S. P., is a solid crystalline substance obtained from formaldehyd. It is very soluble in water and soluble in ten parts of alcohol.

This most useful drug has been known for a number of years, and was made official in the Pharmacopeia of 1900, but its efficient activity as an antiseptic in the fluids of the body, combined with its comparative harmlessness, has not been thoroughly recognized until recently. It has been freely used as a bowel antiseptic and a genito-urinary antiseptic, but it had not been demonstrated until within the last few years how efficient it was as an antiseptic and germicide in the gall-bladder. It has been clinically positively demonstrated that it is valuable in acute infections of the gall-bladder, and efficient in preventing the development of, and the propagation of, typhoid bacilli and other bacilli in the gall-bladder. Consequently, when used during or after typhoid fever it is efficient in preventing these bacilli from remaining in the parts of the body where they prefer to harbor and perpetuate their kind, viz., the gall-bladder and the pelvis or other parts of the kidneys. Being excreted also through and into the biliary passages with the bile it acts as an antiseptic for all of the biliary ducts. When any operation on the gall-bladder is decided on, unless the operation is one of emergency, a course of several days of hexamethylenamin treatment should be inaugurated as tending to render the gall-bladder more or less antiseptic. At least it is possible with this drug enormously to diminish the bacteria in this infected region.

Crowe (*Archives internationales de Pharmacodynamie et de Therapie*, 1908, xviii, 315) showed by experiments

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on dogs that hexamethylenamin was excreted not only by the liver ducts into the gall ducts, but also by the gall-bladder itself and also by the pancreas. After exposure of the duodenum an opening was made about 3 cm. below the pylorus, and small catheters inserted into the orifices of the pancreatic and common bile ducts. The bile and pancreatic juice were collected after the intravenous injection of secretin. The experiments showed that hexamethylenamin is excreted in both the bile and pancreatic juice. Examination of the bile in the gall-bladder in experiments in which the cystic duct had previously been ligatured, showed that the substance is excreted directly by the gall-bladder as well as by the hepatic cells. The milk and saliva of these dogs also gave the test.

In view of the findings in animals it was determined to make a bacteriologic and chemical study of the bile obtained from patients with biliary fistula before and after giving hexamethylenamin. The number of colonies of organisms obtained from one loop of bile in all cases was rapidly reduced to zero. In one specimen before giving the drug, 150,000 colonies were obtained from one loop of the bile, while after giving the drug for a few days, the bile was absolutely sterile. The organisms found were chiefly typhi. coli and pyocyaneus. Typhoid germs are particularly susceptible to hexamethylenamin. The dose necessary to obtain the desired effect quickly in the gall-bladder was found to be 5 gm. (75 grains) a day. Usually one to two doses are sufficient to render the bile absolutely sterile.

Crowe also demonstrated what has since been repeatedly noted, viz., that hexamethylenamin is excreted into the cerebrospinal and synovial fluids. One instance was that of a boy aged 13 who had symptoms suggesting a cerebellar tumor. A decompression operation was done and the wound closed. A plaster dressing was applied, and on removing it twelve days later, a cerebrospinal fistula was found in the upper part of the incision. The discharging fluid contained a few pus cells, bacteria, and shreds of necrotic tissue. Meningitis was feared. Thinking that hexamethylenamin might possibly be excreted by this route also, the boy was given a 0.66 gm. (10 grain) dose of the drug and five or six hours later some of the discharging fluid was collected and tested. A distinct test was obtained and the dose was increased to 2.0 gm. (30 grains) a day. Three weeks later, under this treatment the fistula had closed entirely and the temperature was practically normal.

The second case was one of acute gonorrheal arthritis. The knee joint was swollen, very hot and tender. The patient was given 1.0 gm. (15 grains) of hexamethylenamin. Nine hours later the joint was aspirated and about 100 c.c. of pus withdrawn. The chemical test showed the presence of hexamethylenamin in considerable amount. The dose was increased to 5.3 gm. (80 grains) a day, and four days later cultures from the joints showed a marked decrease in the number of organisms present. A third aspiration, ten days after admission into the hospital, showed that the organism had completely disappeared, but some periarticular infiltration and some limitation of motion still remained.

In no case were ill effects noticed after the administration of hexamethylenamin, other than painful micturition after prolonged administration. This entirely and rapidly disappeared on withholding the drug.

At the recent annual meeting of the American Therapeutic Society, held in Washington, May 5, 6 and 7, Dr. Wilfred N. Barton, of Washington, D. C., related a number of cases of otitis media in which the suppuration rapidly healed and became sterile under the administration of hexamethylenamin.

It therefore seems demonstrated that in bowel infection, typhoid fever, and especially post-typhoid, in gall-bladder inflammations, in cerebrospinal infection, and in middle ear infection, it is scientific and logical to administer hexamethlyenamin whatever other treatment is inaugurated or deemed advisable. It has, now, long been recognized that this drug is the most valuable urinary antiseptic that can be administered, and it is, therefore, useful when the urine contains bacteria of any kind; in inflammations and suppurations of the pelvis of the kidney, in cystitis, and in urethritis.

From the observations of Crowe it would certainly seem advisable to administer this drug in gonorrheal arthritis, pneumococcic arthritis, and perhaps in tubercular arthritis. We are not aware that it has yet been shown to be of value in tubercular disease, whether of the joints, kidneys, or lungs. It certainly is worthy of investigation in this disease.

The dose of hexamethylenamin varies from 0.25 to 1.0 gram (4 to 15 grains). The size of the dose should be determined by its frequency. Probably 0.50 gram (7½ grains) is always a sufficient dose, and this dose could be administered two or three times in twenty-four hours, or 0.25 or 0.30 gram four times in twenty-four hours. It is quickly absorbed and quickly appears in the urine. Occasionally it causes slight irritation to the kidneys, and rarely has seemed to be the cause of a slight hematuria or hemoglobinuria. This, however, has occurred so rarely as to be considered instances of peculiar idiosyncrasy. It is, perhaps, however, unwise to administer this drug, except in much smaller amounts, when there is an acute nephritis. The writer of this editorial has used this drug in many instances for weeks or even months, and in one instance at least for two years in daily doses of the size above described without any symptoms or signs of undesired action. It can, therefore, be presumed that the drug is harmless to the digestion, nutrition, circulation, blood-making organs and kidneys.

This drug will act satisfactorily in preventing phosphaturia when all other drugs, diets and treatments have failed, and hence, can be used to prevent undesired alkalinity of the urine.

Healthy Diphtheria Bacillus-Carriers.—Lemoine inoculated tubes of coagulated serum with mucus from the pharynx of 232 individuals including 86 entirely healthy, 90 with measles and 56 with other affections. He found that the diphtheria bacilli developed in 22 per cent. of the healthy, in 37 per cent. of the measles patients and in from 30 to 47 per cent. of the others. Notwithstanding these positive bacteriologic findings no cases of diphtheria developed in the environment of any of the persons tested. Contagion occurred, however, from others sheltering the bacteria who had not entirely recovered from a preceding attack of diphtheria, some sequel still persisting. On the whole his experiences show, he declares, that no danger need be apprehended from the really healthy diphtheria bacillus carrier, but that persisting sequels of the disease seem to maintain the virulence of the germs. The development of coryza or sore throat in persons in the environment of a diphtheria patient also calls for prompt bacteriologic examination. It is scarcely necessary, he thinks, to examine the persons in the environment not in direct contact with the patient if they remain free from clinical symptoms under close supervision.—*Bull. Soc. Méd. des Hôp.*, March 19, 1910, page 160.

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[For other information see second page following reading matter]

SATURDAY, JULY 9, 1910

HEMORRHAGE AND TRANSFUSION

The study of hemorrhage and transfusion of blood and various associated changes and conditions, as now being carried out in surgically equipped research laboratories, is producing results of much interest. The work is so intensely practical that it merits the attention of the pure clinician as well as of those who devote their energies solely to scientific pursuits.

In summing up the results already accomplished in this comparatively new field of work we find much of value. The early workers of recent times, among whom are Carrel, Guthrie, Crile and others, demonstrated the feasibility of vascular anastomosis and vascular suture. They have shown that the technic of direct transfusion from one person to another is easily mastered, can be quickly performed, and opens up a large field for future therapeutic achievements. We are already assured that direct transfusion is a life-saving measure in case of accidental hemorrhage. It is of value in the prevention and treatment of shock. It probably is of considerable aid in tuberculosis and some other chronic diseases.

Control experiments, performed with the object of comparing the value of blood and saline transfusions, tend to show that the latter has enjoyed undue prominence as a therapeutic measure; for example, in the treatment of accidental hemorrhage it rarely is a life-saving measure, whereas blood-transfusion certainly is. Indications are that the use of blood will also in a large measure supersede the use of saline transfusion in illuminating-gas poisoning.

Study of the blood elements has revealed a diagnostic point of aid in differentiating acute hemorrhage from shock; in the former, the red cells and hemoglobin are decreased, while the white blood cells undergo a distinct leucocytosis; in shock these changes do not occur.

The present-day workers are expending their energies in various directions. The injection of blood-serum for uncontrollable hemorrhage promises to yield good results. The logic of the universally accepted calcium-chlorid therapy in hemorrhagic conditions is being investigated, and in the due course of time we may hope to know, as a result of carefully planned and well-controlled work, whether such treatment is truly of value in selected cases or is to be discredited and given up.

Boycott and Douglas are doing interesting work in following out the changes which transfused blood undergoes and in studying the effects of transfusions on the organism of the recipient. They find the anatomic and histologic structure of transfused rabbits not essentially altered. The spleen is three times the normal size, the liver and kidneys slightly increased. Eosinophilic granules in the phagocytic cells of the mesenteric glands and spleen show an activity greater than normal. The organism disposes of transfused blood, they conclude, in the same way as normal animals dispose of their own "effete" red blood corpuscles. It is taken out of the circulation by phagocytic cells, chiefly endothelial in nature, in the spleen, bone-marrow and hemolymph-glands and then broken up, first into recognizable fragments, later into residue, part of which is seen in iron-containing pigment.

The work of Crile in clinical investigation of transfusion, of Carrel and Guthrie in vascular anastomosis and transplantation of organs, in conjunction with that of Boycott and Douglas and others who are concerned with the histopathologic and chemical features of the subject, promises to yield rich returns in the near future.

THE MAXIMUM OF HUMAN LONGEVITY

To continue the subject we discussed last week, it would be a matter of interest if the extreme age limit of human beings could be definitely ascertained. Instances of extreme longevity, reaching 132 years, have been reported, but according to the mortality report of the Census Bureau of Vital Statistics as prepared by Dr. Cressy L. Wilbur, most of these reports when investigated are found to be unreliable; not intentionally untruthful in many instances, perhaps, but untrustworthy because based on unverified report. This is also found to be the case in Europe, as reported by Thoms and Young. It is believed that the age of 100 has been attained, but, as Dr. Wilbur suggests, "it is perhaps doubtful whether, as shown by incontrovertible evidence, the age of 110 has ever been reached or exceeded." If it could be determined by exact observation that human beings had lived 140 or 130, or even 110 years, that fact would establish the capability of the human organism to keep up those metabolic changes which are essential to life for a period much greater than the present ascertained average or Scriptural allotment of years. Thus it would furnish a mark toward which superior eugenics and real hygienic living could aim, and the extreme limit might be attained more frequently and the average of longevity raised.

There are various theories in relation to longevity. The idea has been advanced that the human machine, in any particular instance, or in a family, is wound up to run about so long, and, barring accident, the individual life will attain approximately that length.

Another idea, advanced by Nascher,[1] is that if the period of development is not forced, and maturity not reached too soon, the period of maturity is longer and the rate of decline into old age slower and a greater age is thus attained. In the period of youth and maturity the protoplasm of the cell is more abundant; in old age the nuclei of the cells are larger in proportion to the cell-contents and there is a greater and more inflexible differentiation of the cells. With an improvement in the inherited vitality of the cell by improved eugenics, a better understanding and attainment of the correct nutritional equilibrium, and the preservation of the status by correct hygiene, the maximum span of life may be reached more frequently and the general average lengthened. What that maximum is at present can be determined only by the adoption of efficient methods of obtaining vital statistics.

In Maine and Massachusetts details in regard to the deaths of reputed centenarians are collected and the facts authenticated. As Wilbur says, physicians should be interested in such cases, and together with registration officials, should endeavor to ascertain the truth about them. Complete and reliable vital statistics would establish the present maximum of longevity, a fact of real scientific as well as popular interest.

THE BRITISH AWAKENING

"Great is truth, and it will prevail"—somewhat slowly, however. For some years THE JOURNAL has been exposing the fraud and deception connected with the exploitation of proprietary remedies and at last its campaign appears to be overcoming even the inertia of British conservatism. In a recent issue, the *British Medical Journal*[2] editorially protests against antikamnia and gives the results of THE JOURNAL'S analysis published five years ago. No mention is made of the fact that the Association Laboratory demonstrated that after the Food and Drugs Act went into effect in this country the antikamnia people substituted acetphenetidin for acetanilid in the product sold in America while they retained the older and cheaper drug in the antikamnia on the British market.

The immediate cause of editorial indignation seems to be that now the British public is being circularized with the "Do-you-suffer-pain?" letters, and our conservative over-seas contemporary is constrained to object, mildly it is true, but nevertheless to object. It goes even further and deplores the fact that physicians have written testimonials for this nostrum. Of course, as the *British Medical Journal* says: "They are, it is true, American doctors; but are British practitioners guiltless in the matter?" Unfortunately they are not. On this side of the Atlantic, in fact, the most widely circulated testimonial of the antikamnia people is one credited to "Wm. Hy. Griffith, M.D., L.R.C.P., Edin.; L.R.C.S., Edin.; L.F.P.S., Glas." A gentleman answering to this somewhat elongated cognomen appears in the British Medical Directory as living in the "rare old city" of Chester, England. We also find among testimonial-givers a "Dr. Arthur Bailey Francis (Queen's College), Belfast, Ireland"; "Dr. John Arthur Diggle (Med. Ref. Globe Accident Assur. Soc., of London, England)," and "Dr. M. G. Dundas," who eulogizes antikamnia in *Medical Reprints*—whatever that may be—London, England. We read too, in one of the latest American advertisements, that "among those who have paid high tributes to their [antikamnia tablets] value and who occupy positions of great eminence, may be mentioned Dr. J. Acheson Wilkin and Dr. R. J. Blackham, practitioners of London."

Doubtless there are very many more. Yet it is probable that more American physicians than British have written panegyrics on this "headache mixture"; but that is natural. There are more American physicians than British and, besides, the nostrum, we are ashamed to admit, is an American one. As a class, however, American physicians have long since ceased to be fooled on the subject of antikamnia. The advertisements of this nostrum which appear in high-class medical journals indicate that as much can hardly be said for our British confrères. We find that up to as late as last month such publications as the *Lancet, Practitioner, Medical Press and Circular, Dublin Journal of Medical Science, Glasgow Medical Journal* and the *Journal of Obstetrics and Gynecology of the British Empire* were still carrying the advertisements of this dangerous nostrum.

We hope that this is the opening wedge. Antikamnia was one of the first "ethical proprietaries" which the Council on Pharmacy and Chemistry exposed through THE JOURNAL; since it was first shown up a host of others just as bad, if not as impudent, have been dealt with in these pages. May the *British Medical Journal*—which has already purged its pages of these frauds—take up this unsavory brood *seriatim* and it will not not be long before medical journals of the better class across the water will have as clean advertising pages as American journals of the same class already have.

REPORTS ON MEDICAL EDUCATION AND THEIR RESULTS

Two thorough investigations of the medical schools of the United States and Canada have been completed in the last few months, one by the Council on Medical Education of the American Medical Association, extending through a period of six years; the other by the Carnegie Foundation for the Advancement of Teaching, extending through the last two years.

In its report the Council on Medical Education presented a list of the medical colleges graded in three classes: Class A, including those considered accept-

1. New York Med. Jour., April 17, 1909.
2. See comment of our London Correspondent, in London Letter, this issue.

able; Class B, including those needing certain improvements, and Class C, those which require a general reorganization to make them acceptable.[1]

As a result of its investigation, the Carnegie Foundation published an exhaustive report on its findings exposing defects wherever found. Hypocrisy, misstatements of fact in college announcements or otherwise, and makeshifts in the enforcement of standards received particular attention, and even some regarded as of high standard did not escape criticism. Numerous cries of "unfair," "unwarranted," "lack of knowledge," and even of "prejudice" have been raised, which show that the shoe fits pretty tightly in certain quarters. There is an adage that it is the truth that hurts. It is so in this instance. The report may be subject to criticism in some matters of detail, but those who are competent to judge—those who know the actual facts—realize that, in general, the conditions set forth in the Carnegie report are true and indisputable.

It is not surprising that one college, the St. Louis College of Physicians and Surgeons, has filed a suit for damages against the officers of the Foundation and the editor of THE JOURNAL of the American Medical Association. Possibly that was the only answer the school could make to the charges brought against it, judging from an abundance of information in the possession of the Council on Medical Education. We fear that the college will not bring the suit to trial; but, if it does the public will be made acquainted with the facts —a highly desirable result. Many colleges have taken the better course, have frankly admitted their shortcomings, are endeavoring to make the needed improvements, and planning to make the best of a bad situation.

Now that the investigations have been completed and the facts have been clearly set forth, it is to be hoped that the splendid reconstruction already begun may be carried on with increased vigor. As set forth in the report of the Council on Medical Education, medical teaching in this country should be developed as a part of our educational system, coordinating and not conflicting with the other departments of that system. Let there be a strict enforcement of a four-year high-school education as the minimum preliminary requirement; let there be well-trained, full-time salaried teachers in the laboratory branches; let there be better equipped laboratories, better clinical facilities, more bedside clinics, better courses in laboratory diagnosis, and finally, let there be at least as thorough methods of teaching in our medical schools as prevail in our standard universities and colleges of liberal arts.

Undoubtedly the faculties of the majority of colleges will attempt to develop stronger and better institutions in place of those now existing. This is evident from the reports of additions to the endowments of medical education, of the erection of new buildings, of voted increases of preliminary standards and of the eager search for better laboratory instructors. In justice to the colleges it should be said that many of these extensive improvements were planned long before the results of the investigations referred to were made public. After all, the improvements which are inspired by an actual desire to teach medicine properly are the ones which count the most. Other colleges, desiring to make improvements, heartily welcomed the investigations, since the changes which could be made to the best advantage would thereby be indicated. May this improvement and development go on until medical education in the United States is second to that of no other country!

1. This classification was published in THE JOURNAL June 18, p. 2061.

Current Comment

A NEW PATRIOTISM

Those who have been engaged for several years in keeping toll of the awful cost in life and limb through the old methods of celebrating the Fourth of July, and who have been persistently advocating more quiet, orderly and uplifting methods, have been looking forward to this year's celebration, more hopeful than in any previous year. During the last two years, and during the last year especially, an enormous amount of comment has appeared in the newspapers and magazines, calculated to educate the public to a more sensible method of celebrating this national holiday. And from the newspaper reports from all over the country, the educational work has counted, the hoped-for change has come, and the newer method of celebration has been adopted. If the change in method of celebration of Independence Day has been as great all over the country as in Chicago, then indeed has a new era begun, and a new patriotism developed. Instead of the senseless booming and snapping of bombs and firecrackers, not only on the Fourth of July itself but for several days preceding, quiet reigned supreme. Instead of whiling away the time in thoughtless, aimless efforts to create a noise, the people assembled by the hundreds of thousands to witness parades, intelligently planned and of marked educational value; they looked on displays of flags and witnessed the marching of soldiers to the rhythm of inspiring music; they saw floats representing the signing of the Declaration of Independence, the birth of the American flag, the inauguration of the nation's first president and other historic incidents of which the nation, the state, and the city are justly proud. They spent the rest of the day at picnics, at band concerts, in the parks, in visiting friends and relatives—and even here the main topics of conversation were doubtless influenced by the inspiring incidents of the morning. Of more vital importance, however, was the fact that, for the vast majority of homes, the day was peacefully ended without any awful aftermath of sorrow and suffering. And the wonder is, why the old methods were tolerated so long as they were; and why the celebration of the Fourth of July had not long since been recognized as a great opportunity to develop a genuine patriotism. Such celebrations as that wit-

nessed in Chicago, and undoubtedly in a large number of other cities, cannot fail to create a stronger national spirit, a genuine love for our country, a pride in her past achievements, and a desire to uphold her future —and surely this is patriotism.

UPHOLDING THE VITAL STATISTICS LAW

An Ohio physician was convicted of violating the vital statistics law by persistently refusing to report births. He was not a member of a county society, but in appealing the case to the Supreme Court he solicited financial aid from the societies. On this account the matter came before the House of Delegates of the state society. That body wisely expressed its disapproval of this violation of the law, and also of the action of those county societies which had extended aid to the physician. In effect the resolution adopted by the Ohio House of Delegates says that the vital statistics law of Ohio should be upheld by physicians and strict compliance with it insisted on. We believe this is right. A physician who refuses to comply with this law does not appreciate his responsibility or his obligation to the state. The attitude of physicians in such matters should be carefully considered. It is an axiom in the legal profession that every lawyer who has been admitted to the bar is in fact an officer of the state. In a similar way every physician who has been licensed to practice medicine in accordance with the laws of the state is in fact a health officer of that state. The state has granted him certain privileges, in addition to placing its seal of approval on him in the form of a license to practice medicine. In return for this he is under moral, and in some states legal, obligations to render a fair and proper return by promptly performing the duties his position requires. The importance of vital statistics is known better to physicians than to others, and they should be the last to resist in any way the enforcement of these laws. Hence the attitude of physicans who refuse to make returns of births or who demand the payment of a small fee by the state cannot be commended.

MEDICAL SECTS

Sectarianism in medicine has long been with us; yet, singularly enough, its literature is exceedingly limited, aside from that of a controversial and partisan character. Apparently no one has thought it worth while to inquire why medical sectarianism exists, or why each new cult, no matter how absurd its tenets from a scientific point of view, always succeeds in attracting a following. The superficial explanation that "the public likes to be humbugged" has been repeated, *ad libitum*, although it is not true; and even if it were true, it is no explanation. Mr. Flexner, in his report to the Carnegie Foundation, on American medical schools, devotes a chapter to a dispassionate review of the subject, summarizes the present conditions, and prophesies for the future. This chapter is one of the most important in the book, and is deserving of careful perusal on the part of every thoughtful physician. It is for this reason that we have copied the greater part of the chapter in this issue of THE JOURNAL.[1] Mr. Flexner's explanation of sectarianism and its underlying causes constitutes the first attempt that has been made to account psychologically and philosophically for the peculiar fact that, historically speaking, medicine, using the term in its broadest sense, has given rise to more sects than any other form of human activity—except religion. The philosopher, the psychologist, the economist, even the latter-day sociologist and anthropologist, who has considered all fields of investigation as his by right—all have overlooked the enormous influence of medicine and medical sects on our social organism. It would be interesting to speculate on what might have been the differences in our present social, economic and educational systems and conditions, had sectarianism in medicine never existed. Only by a thorough understanding and an accurate appreciation of the causes underlying sectarianism in medicine, can we hope to evolve a permanent system of rational, legal regulation to take the place of the existing illogical, inequitable and constantly changing patchwork of compromise and legislative stupidity, which makes up most of our existing system of state regulation. Flexner's contribution will help to make such an understanding possible.

FOURTH OF JULY ACCIDENTS

Although, as stated above, new methods of celebrating the Fourth of July seem to have largely superseded the noisy, unenlightened methods heretofore in vogue, we must not be too confident of the future. Possibly nothing has been so effective in bringing about this new order of things as THE JOURNAL'S annual presentation of the net results of the older methods. Furthermore it will be particularly interesting this year to show what effect these new methods have had in diminishing the numbers of killed and injured. THE JOURNAL will therefore gather statistics of Fourth of July casualties, as in previous years, and again asks the cooperation of its readers. It is hoped that each reader of THE JOURNAL will report any accidents that come to his knowledge. Complete details are particularly desired regarding all cases resulting in tetanus or death. Special blanks for such reports will be sent on application.

Medical News

CALIFORNIA

Health Conditions in the State.—That health conditions are improved is shown from the records of the State Board of Health. In 1909, 30,985 persons died as against 31,278 in 1908, and 31,095 in 1907; births and marriages show an increase over the previous year. The births reported in 1909 numbered 30,882; in 1908, 28,077, and in 1907, 24,647. The marriages during 1909 numbered 22,917; in 1908, 21,734, and in 1907, 23,000.

Care for the Insane.—The State Lunacy Commission at Sacramento has raised the salaries of the superintendents of the five state asylums and of the superintendent of the Sonoma Home for Feeble-minded Children. Dr. Hatch, secretary of the

1. Department of Medical Economics, p. 147.

commission, states that commitments to the State Hospital for the Insane have been large this year, due to the increasing immigration and the use of alcohol. The state board is endeavoring to secure an amendment to the present law governing the commitment of the insane, and the legislature will be asked to create a fund for the establishment of a special building at one of the asylums for the care and treatment of inebriates and drug habitués.

CONNECTICUT

Personal.—Dr. Robert S. Clark, New Haven, has been appointed intern in the House of Mercy Hospital, Springfield, Mass.

New Dean for Yale Medical School.—Dr. George E. Blumer, professor of theory and practice of medicine, is to be the new dean of the Yale Medical School, to succeed Dr. Herbert E. Smith, who has been dean for twenty-five years.——A silver loving cup was presented to Dr. Smith at the Yale Medical Alumni Association banquet, June 20, and he responded to the toast, "Twenty-five Years of the Yale Medical School." The toastmaster of the evening was Dr. Edward R. Baldwin, Saranac Lake, N. Y.——The ninety-seventh anniversary of the founding of Yale Medical School was held in the College Street Hall, June 20. The annual address in medicine was delivered by Dr. William T. Councilman, professor of pathology in Harvard University.

DISTRICT OF COLUMBIA

New Doctors for Army.—Forty-five members of a class of fifty physicians who have taken the course of instruction at the Army Medical School, Washington, D. C., successfully completed their work, June 1, and were awarded commissions as first lieutenants in the medical reserve corps of the army by the secretary of war. Surgeon-General George H. Torney presided and the principal address was made by Dr. Victor C. Vaughan, Ann Arbor, Mich.

ILLINOIS

New Sanitarium.—Contract has been let for the new Memorial Sanitarium at Charleston, to be known as the Mack A. Montgomery Memorial Sanitarium.

License Revoked.—At the meeting of the State Board of Health, June 24, the board revoked the license of Dr. David Apfelbaum, Chicago, for advertising under a fictitious name.

State Civil Service Examination.—Secretary Joseph Mason, of the State Civil Service Commission, has announced the successful candidates in the promotional examination for physicians in the various state institutions. There were ten successful candidates for promotion to physician and twelve to assistant physician.

Fraudulent Diplomas.—On June 24, Judge Landis, in the United States District Court, sentenced Dr. Alexander Chittick, Chicago, to serve sixty days in the county jail for the fraudulent use of the mails in connection with the sale of diplomas from the Chicago Medical University and the Crescent Medical University. Dr. Chittick's license was revoked by the State Board for this offense May 24.

State Board Rules Against Night Schools.—The Illinois State Board of Health adopted a ruling, June 21, that it would not consider in good standing any medical college which after June 30, 1911, offers, during the evening or at night, all or the major portion of the clinical and hospital instruction or of the didactic work such as is commonly embraced in the third and fourth years of the medical curriculum.

Personal.—Drs. William Plumer and Frank Robb have been appointed township physicians at Farmington.——Dr. William E. Miller, Columbus, was appointed physician for Adams County, June 15.——Dr. Augustus R. Reder has been appointed city health officer at Aurora.——The late Dr. Jacob H. Huber, Pana, has bequeathed $50,000 to his home city for benevolent purposes.

Reorganization of Antituberculosis Association.—The Illinois State Association for the Prevention of Tuberculosis, said to have been practically out of existence since 1906, was reorganized at a meeting in Chicago June 25, under the call of the Chicago Tuberculosis Institute. An effort will be made to arouse an interest in the formation of county and other local organizations, and an appropriation will be asked from the state legislature for a traveling tuberculosis exhibit, and for a law creating a state sanatorium. Gov. Charles S. Deneen was elected honorary president; Dr. William A. Evans, Chicago, president; vice-presidents, Drs. Tully O. Hardesty, Jacksonville, and George T. Palmer, Springfield; secretary, Frank E. Wing, Chicago; treasurer, David R. Forgan, Chicago; medical members of the central council, Dr. J. W. Pettit, Ottawa; Drs. Theodore B. Sachs, Ethan A. Gray and George W. Webster, Chicago, and Dr. St. Elmo M. Sala, Rock Island.

Chicago

Free Tuberculosis Hospital.—The Chicago Fresh Air Hospital, 7528 Northwestern avenue, exclusively for tuberculous patients, opened July 1. Treatment will be free. The hospital is equipped with two open air sleeping porches and indoor accommodation for more advanced cases. The grounds comprise twenty acres.

Endowment for Medical Research.—By the will of the late O. S. A. Sprague, the Sprague Memorial Institute for Medical Research will be established with an endowment of $1,000,000. The first step in organization has been the securing of a charter, July 1, by the trustees, A. B. Bartlett, Charles L. Hutchinson and Albert A. Sprague.

Personal.—Dr. Alice Hamilton, a resident of Hull House, has been granted the honorary degree of M. A. by the University of Michigan.——Dr. W. H. Holmes has been appointed bacteriologist to the State Board of Health to succeed Dr. N. E. Wayson, resigned.——Dr. N. E. Wayson has been appointed a physician in St. Francis Hospital, Wichita, Kan.——Dr. Robert H. Babcock, Chicago, has been given the degree of LL.D. by the University of Michigan.

IOWA

Bierring Goes to Drake.—It is reported that Dr. Walter L. Bierring, former professor of the State University of Iowa College of Medicine, will move to Des Moines, where he has accepted the chair of medicine in the reorganized College of Medicine of Drake University. He will be provided with two salaried assistants, in clinical diagnosis and in pharmacology.

Medical Society Meetings.—Jones County Medical Society held its regular semi-annual meeting in Anamosa June 9 and elected the following officers: President, Dr. Aram G. Hejinian, Anamosa; vice-president, Dr. Aileen B. Corbit, Wyoming; secretary-treasurer, Dr. John E. King, Anamosa, and delegate, Dr. Thomas M. Redmond, Monticello.——The Des Moines Valley Medical Association met at Ottumwa, June 23, and elected the following officers: President, Dr. Lawrence W. Littig, Iowa City; vice-presidents, Drs. Lewis A. Rodgers, Oskaloosa, and Ernest C. McClure, Bussey; secretary-treasurer, Dr. Fred W. Bowles, Ottumwa, and censors, Drs. Smith A. Spilman, Ottumwa; Jerry A. Replogle, Udell, and Henry C. Young, Bloomfield.

KANSAS

Personal.—Dr. H. A. Dykes, Lebanon, has been elected secretary of the Kansas Board of Medical Registration and Examination to succeed Dr. F. B. Hatfield.——Dr. Albert S. Ross, Sabetha, the newly appointed member of the board, was elected president.——Dr. Oscar R. Troje, Kansas City, has entered government service in the Canal Zone.

Meeting of State Health Officers.—At the meeting of the Association of Public Health Officers, held at Topeka, June 15, Dr. Clay E. Coburn, Kansas City, was elected president to succeed Dr. Charles H. Lerrigo, Topeka. Dr. Benjamin J. Alexander, Hiawatha, was elected vice-president. The following were reelected members of the advisory board: Dr. F. O. Marvin, sanitary adviser, Lawrence; Dr. William C. Hoad, sanitary and civil engineer, Lawrence; Dr. E. H. S. Bailey, chemist, State University, Lawrence; Dr. J. T. Willard, Agricultural College, Manhattan; Dr. L. E. Sayree, State University, Lawrence; Dr. Robert S. Magee, Topeka; Dr. Sara E. Greenfield, Topeka; Dr. W. J. V. Deacon, statistician, Topeka, and Dr. Samuel C. Emley, lecturer, Lawrence. The association declared that measles, infantile paralysis, typhoid fever and ophthalmia neonatorum are henceforth to be reportable diseases. Ex-Senator J. E. Brewer, Abilene, appeared before the board with a copy of resolution adopted by the Merchants Association to the effect that when the rules of the board operate in restraint of trade and to no benefit to the consumer they should be dispensed with. The next meeting will be held in Hutchinson in September.

KENTUCKY

New Hospital Located.—The new city hospital for Louisville is to be located on the present site at Floyd and Chestnut Streets.

Society Meetings.—The Southwestern Kentucky Medical Society met at Paducah recently and elected the following officers: President, Dr. John Q. Taylor, Paducah; vice-presi-

dents, Drs. George W. Payne, Bardwell, and Quintus L. Shelton, Paducah; secretary, Dr. E. C. Reynolds, Paducah; treasurer, Dr. Vernon Blythe, Paducah, and historian, Dr. Robert T. Hocker, Arlington.——Under the auspices of the Lincoln County Medical Society, the local board of health at Goshen held a public meeting, at which health questions were discussed in a popular way by various physicians of the county society.

Personal.—The State Board of Control June 18 elected Dr. Henry P. Sights, Paducah, superintendent of the Western Asylum for the Insane, Hopkinsville, to succeed Dr. Thomas W. Gardiner, who has become a member of the board of control. Dr. Sights is the present health officer of Paducah, and was for three years first assistant physician at Hopkinsville.——Dr. Llewellyn P. Spears, Louisville, has been made jail physician to fill the vacancy made by the resignation of Dr. Samuel H. Garvin.——Dr. S. J. Smock has been elected health officer at Glasgow to fill the unexpired term of the late Dr. Richard E. Garnett.——Dr. Henry Enos Tuley and family, Louisville, have gone to Europe to remain until September.

MARYLAND

Personal.—Dr. Marshall West has been appointed health officer of the First District, Baltimore county, vice Dr. Arthur H. Mann, resigned, on account of ill health.

School to Be Enlarged.—It is announced that the recent legislative appropriation of $150,000 for the Maryland Training School for the Feeble-Minded, will enable that institution to care for 200 additional patients.

Bequest of Hahnemann Portrait.—The late Dr. Alfred Wanstall, homeopathic physician, bequeathed a bust and portrait of Hahnemann and his medical books to the Maryland State Homeopathic Society, and all his medical instruments and drugs to the Homeopathic Hospital.

Monument to Dr. Horace H. Hayden.—A monument was unveiled at Windsor, Vt., his birthplace, June 25, in honor of Horace H. Hayden, M.D., the "Father of Dental Science." He came to Baltimore in 1800, joined the Medical and Chirurgical Faculty in 1810, took part in the organization of the Maryland Academy of Sciences, delivered the first course of dental lectures in the University of Maryland in 1837, founded the first dental college and society in 1840 and the first dental journal in 1841. He was an uncommon genius, an indefatigable student and investigator, particularly in geology and botany. He collected a valuable cabinet of minerals, now at Roanoke College, Va. He was twice honored with the M.D. degree, by Jefferson College and by the University of Maryland. He served as surgeon with the troops defending Baltimore in 1814. The Baltimore College was represented at Windsor by Dr. B. Holly Smith, the dean, who delivered the address.

State Society Notes.—The Medical and Chirurgical Faculty has assumed financial management of its *Bulletin*, which was begun two years ago by Dr. Henry O. Reik, who conducted it with much credit. The present staff are Dr. Emil Novak, editor; Dr. Joseph A. Chatard, associate editor; Dr. Arthur P. Herring, business manager. The *Bulletin* recommends that there be a medical man on the staff of every daily newspaper to exercise oversight in medical matters. This is necessitated by the constantly increasing importance of medical and health news and the lamentable frequency with which such news is incorrectly presented or distorted.——The semi-annual meeting of the state society will be held at Annapolis about the middle of September.——Drs. J. McPherson Scott, Hagerstown, and Henry M. Fitzhugh, Westminster, were elected medical examiners for Maryland. The Medical and Chirurgical Faculty will hereafter elect its officers in general meeting, the nominations to be made in the House of Delegates.

Baltimore

Personal.—Dr. Charles W. Mitchell has sailed for Europe.——Dr. Franklin P. Mall has gone to Münich, Germany.——Dr. J. Burr Piggott has assumed charge of University Hospital as superintendent, vice Robert P. Bay, resigned.——Dr. William W. Russell left for Chester, Nova Scotia, June 29.——Dr. C. Urban Smith has resigned as professor of medicine and diseases of the stomach at the Maryland Medical College.

Food and Drug Law.—The State Board of Health, on July 1, took up the enforcement of the new pure food bill, which became effective then. The legislature appropriated $15,000 for expenses. The act prohibits the sale of any drug or food that is adulterated in any way, unless the fact is stated on a label showing the percentage of adulteration. Although the act became effective July 1, it does not apply to foods and drugs purchased by the dealers prior to the passage of the act, until Jan. 1, 1911, thus giving dealers ample opportunity to dispose of all goods which do not come up to the requirements of the law. It is believed that the druggists welcome the law.

NEW YORK

Personal.—Health Commissioner Fronczak, Buffalo, left June 26 for Europe, where he will study open air schools and attend the conference on school hygiene in Paris.——Dr. John Parmenter has been elected president of the health board at Geneva.——Dr. and Mrs. John H. Collins, Schenectady, have sailed for Europe.

Bills Signed by the Governor.—Governor Hughes has signed bills permitting the establishment of a board of inebriety for New York City; authorizing the State Lunacy Commission to contract for the completion of the Mohansic State Hospital for the Insane at a cost of $2,000,000 and making a preliminary survey appropriation of $100,000; and placing the care of the insane during temporary commitment with the health officer. He vetoed bills providing for the reconstruction of the Long Island State Hospital, and for expenditures for the Kings Park State Hospital and the Central Islip State Hospital.

Would Ease Restrictions on Milk.—Modifications in the health board regulations as to milk are being urged by the Sanitary Milk Dealers' Association which was originated by Dr. Lederle. Among the provisions which it is desired to remove is one requiring that barns be swept in the morning before the milking is done. It is claimed that this requirement is practically a dead letter and that sweeping just before milking increases rather than diminishes the number of germs in the air that may gain access to the milk. The association also wants to sell pasteurized milk from cans like raw milk, and they want the time limit in which pasteurized milk must be disposed of increased from twenty-four to thirty-six or forty-eight hours.

New York City

White Plague Exhibit in Italian Quarter.—The charity organizations opened their tuberculosis exhibit June 20 in Grand street. The Italian consul-general made an address. The exhibit will be kept open for a month.

Floating Hospital Begins Season.—The Helen C. Juillard floating hospital for sick children, made her initial trip from Manhattan Island to New Dorp, S. I., July 5. This vessel carries children sick enough to require skilled treatment to the Seaside Hospital at New Dorp.

Personal.—Yale University has conferred the degree of doctor of science on Dr. Simon Flexner of the Rockefeller Institute of Medical Research.——Dr. A. Norton Brockway was stricken with apoplexy while attending the commencement exercises of Hamilton College.——Dr. Francis E. Butler has sailed for Europe.

New Medical Building for Fordham.—Fordham University School of Medicine has secured $100,000 for the erection of a new medical building on the university campus, consisting of three stories and a basement, 110 by 150 feet. It will be used largely as a dispensary, all the first floor and a part of the second being divided into rooms for clinics and laboratories for microscopic work. The building also provides for two lecture halls, a students' common room, etc.

New Hospital Dedicated.—The Peoples' Hospital at 203 Second avenue has recently been dedicated. Meyer Grenbaum made the address and stated that the funds had been raised entirely by the Jews. He stated that there were at the present time in New York city 1,250,000 Jews and of that number less than 5,000 could be cared for by the Jewish hospitals of the city. He upbraided his race for not having fulfilled the contract that they made with the Colony of New Amsterdam by which they agreed to care for their own sick and destitute.

PENNSYLVANIA

Personal.—Dr. Harry B. Adams, Media, has been appointed chief house surgeon at the Metropolitan Hospital, New York.——Dr. William S. Vanneman, formerly of Pennsgrove, has come home after having spent twenty years as a medical missionary in Persia.

Dickson City Epidemic Halted.—Within the past few days no new cases of smallpox have been reported in Dickson City. The physicians from the State Department of Health, the Dickson City Board of Health and the seven physicians employed by the borough were kept busy vaccinating the residents of the stricken city, and are now confident that the epidemic is well under control.

School Medical Inspection.—The Wilkes-Barre school board has adopted Dr. S. P. Longstreet's plan for a medical examination of all pupils twice a year. Dr. James T. Williams has been appointed chief medical inspector and his salary fixed at $1,000 a year. Pupils will be examined at the beginning of each term and at the spring vacation. Teachers will also be instructed how to determine physical defects in pupils.

Philadelphia

Addition to Hahnemann Hospital.—Ground was broken June 25 for the erection of a four-story $40,000 addition to the Hahnemann Hospital at Fifteenth and Race streets.

Infant Mortality Campaign.—Active work was begun July by the new child health division of the Department of Public Health and Charities, under the direction of S. W. Newmayer, who is in charge of the infant mortality work of the department. Eight visiting and one supervising nurse began an active campaign to reduce the death-rate among children, particularly in the congested sections.

Measles Delays Panama Liner.—Development of a case of measles on board halted the Panama liner *Alliance*, July 1, when fifty miles down the coast on the way to the isthmus. The steamer returned to quarantine, and the patient was removed to the hospital on Hoffman Island with another child which was exposed to the infection. The steamer resumed her way the following day.

TEXAS

Site for Quarantine Home.—The War Department has ceded a portion of its reservation on Pelican Spit at Galevston to the government health department for a site for the new quarantine station. About $200,000 is at present available for the work.

Society Meeting.—At a meeting of the Taylor County Medical Society held on June 27, in Abilene, Dr. Charles M. Rosser, Dallas, delivered an address on "Cancer of the Uterus." A dinner was given in honor of Dr. Rosser at the Hotel Grace. Covers were laid for thirty.

College Commencement.—At the commencement exercises of the Medical Department of the University of Texas, Galveston, May 31, medical degrees were conferred on a class of fifty-seven by President Mezes. The principal address was delivered by Dr. Ashley W. Fly, Galveston, a member of the board of regents.

Personal.—Dr. George M. Decherd has been appointed health inspector at Austin.——Dr. Edward Scott has been appointed county health officer at Bay City to succeed Dr. Bat Smith, who has resigned.——Dr. John F. Y. Paine, professor of obstetrics and gynecology in the medical department of the University of Texas, was presented with a loving cup by the senior class, June 1.

Fraudulent Instructor.—The El Paso County Medical Association warns physicians to look out for a man speaking broken English, weighing about one hundred and eighty pounds, and pretending to give courses in bacteriology and pathology to physicians. It is said that he knows but little of the subjects, and at El Paso he forgot to pay his hotel bill. The society wishes to have him located.

GENERAL NEWS

New Chief for Leper Colony.—Dr. James H. Biggar, former chief of the Culion leper colony in the Philippines, has resigned from the service and will take up the practice of medicine in Texas. He has been succeeded by Dr. Paul Clements, medical inspector of the bureau of health.

Annual Conference of American Hospital Association.—The twelfth annual conference of the American Hospital Association will be held at the Planters' Hotel, St. Louis, September 20, 21, 22 and 23. An extensive and interesting program has been arranged for the meeting.

Epidemic of Smallpox in Mexico.—An epidemic of smallpox is reported to have been raging for several months in the district of Ozumba, Northern Chihuahua, Mexico, and an appeal has been made for medical officers and soldiers to enforce quarantine laws. It is reported that over six hundred deaths have occurred in six months.

Appointments and Promotions at Rockefeller Institute.—The directors of the Rockefeller Institute for Medical Research announce the following promotions and appointments for the year 1910-1911: Laboratory Staff—Jacques Loeb, Head of Department of Experimental Biology. Associates, W. A. Jacobs, biologic chemistry; D. R. Joseph, physiology and pharmacology; Peyton Rous, pathology; B. T. Terry, protozoology; D. D. Van Slyke, biologic chemistry. Assistants, M. T. Burrows, experimental surgery; P. F. Clark, bacteriology; I. S. Kleiner, physiology and pharmacology; Hardolph Wasteneys, experimental biology. Fellows, F. J. Birchard, biologic chemistry; F. B. La Forge, biologic chemistry. Scholar, J. Bronfenbrenner, pathology. Hospital Staff—Resident physician, G. Canby Robinson. Interns, George Draper, H. K. Marks, F. W. Peabody, H. F. Swift. General manager, Jerome D. Greene.

International Congress of Medical Electrology and Radiology.—The fifth international congress for discussion of these branches of the medical sciences is to meet at Barcelona, Spain, September 13 to 18. Among the topics to be discussed are the unification of methods of electrodiagnosis, electricity as an antiphlogistic agent, the biologic action of high-frequency currents, the therapeutic action of the uninterrupted current and the electrolytic introduction of medicinal ions, the use of Roentgen rays in abdominal diagnosis and autoconduction. The international committee in charge of the congress includes among its twenty-five members C. Beck of New York and S. Leduc of Nantes. Dr. C. L. Leonard, 112 South Twentieth street, Philadelphia, Pa., is the representative for this country. He is to present an article on the progress realized in Roentgen diagnosis to date.

National Confederation of State Medical Examining and Licensing Boards.—At the twentieth annual meeting of this confederation held in St. Louis, June 6, the following officers and committees were elected: President, Dr. J. C. Guernsey, Philadelphia; vice-presidents, Drs. James A. Egan, Springfield, Ill., and Charles A. Tuttle, New Haven, Conn.; secretary-treasurer, Dr. George H. Matson, Columbus, Ohio; assistant secretary, Dr. Darlington Snyder, Columbus, Ohio; executive council, Drs. N. R. Coleman, Columbus, Ohio; Edwin B. Harvey, Boston, James A. Duncan, Toledo, Ohio, A. H. Hamel, St. Louis, D. P. Maddux, Chester, Pa.; committee on clinical instruction, Drs. Henry Beates, Philadelphia, Charles A. Tuttle, New Haven, Conn., Fred C. Zapffe, Chicago, Maurice J. Lewi, New York; L. F. Bennett, Beloit, Wis.; committee on materia medica, Drs. M. G. Motter, Washington, D. C., J. C. Gurnsey, Philadelphia, George MacDonald, Washington, D. C.; committee on lay publicity, Drs. Darlington Snyder, Columbus, Ohio, Frederic Singer, Pueblo, Colo., Fred C. Zapffe, Chicago.

MANILA LETTER

(From Our Regular Correspondent)

MANILA, May 31, 1910.

Medical School and Hospital

In medical circles in Manila considerable interest is shown at present in the Philippine Medical School and the new Manila General Hospital which is nearing completion. Much pride in the possession of such handsome and modern structures as those of the hospital and medical school is felt by both the American and Filipino physicians. It is expected that the building of the medical school will be completed and ready for occupancy in time for the opening of the fourth annual session, June 6. These buildings are modern serviceable types, of reenforced concrete. Especial attention has been given to sanitation, light and fresh air and the buildings are well adapted to a tropical climate. During 1908 the Philippine Commission appropriated the sum of 780,000 pesos for the construction of the hospital, which is planned on the pavilion system. At the same time there was set aside the sum of 250,000 pesos for a new medical school laboratory building to be erected on the same campus as the Bureau of Science and the hospital. These buildings are now nearing completion.

The Philippine Medical School

The Philippine Medical School is an outgrowth of the educational system instituted throughout the Philippine Islands by the Philippine Commission and it is also a natural development of the Bureau of Science and the Bureau of Health. The movement looking toward the establishment of such a school had its origin at the second annual meeting of the Philippine Islands Medical Association in 1905, at which meeting the proceedings demonstrated the great need of supplying physicians to the people of the islands. It was shown from statistics that there is an average of one physician to 21,209 of the population of the Archipelago, and that at present there is only one physician to each 430 square miles of territory. In this connection it is to be remembered that the population of the Philippine Islands is greater than that of Canada and that the density of population per square mile is equal to that of Indiana, and, deducting New York City, nearly as great as that of New York state. In view of these amazing facts one is inclined to ask whether a great proportion of the population,

having done without reputable physicians so long, will take to improved medical attention or will patronize the modern physician. In the case of the Filipino physician this, to some extent, may be answered by the citation of the twelve months' career of a native graduate, a former scholarship student of the Philippine Medical School. After taking some hospital work he returned a little over a year ago to his native province and started practice in a town of a few thousand inhabitants, which up to that time had been without a registered physician. On the day of his arrival a man was shot through the stomach. The new doctor was sent for, merely, however, to give relief to the man before his expected death. The new doctor at his first serious case became scared out of his wits. However, with the moral support and the assistance of an American scout, ether was administered, rather at the protest of the relatives, and the wounds sewed up and dressed. By careful nursing the doctor was able to bring the man through, and, as a result, at once became a hero of the town. Last week one of the leading druggists of Manila received an order from this doctor for drugs, office fixtures and surgical supplies amounting to nearly $1,000, and he paid cash.

Scholarships

In order that the medical school may serve as wide a field as possible, the Philippine Commission has established "for each province in the Philippine Islands one free scholarship in the Philippine Medical School." This scholarship is competitive and entitles the successful competitor, who must be at least a high school graduate, to "the expenses of transportation to Manila, board, subsistence and maintenance while in Manila attending the Philippine Medical School not exceeding 500 pesos per annum each." In accordance with act No. 1632: "(d) Each scholarship student who shall graduate from the medical school with the degree of doctor of medicine, unless he shall accept appointment under the government of the Philippine Islands or one of its branches, shall return to his province and practice medicine and surgery therein for a period at least equal to the time of his scholarship tuition, unless permission to do otherwise be granted by the Secretary of the Interior. Failure to comply with the terms of this section shall be deemed sufficient grounds for revocation of his license to practice medicine and surgery in the Philippine Islands in the same manner as are other offenses described by section 8 of act numbered 310."

Entrance Examinations

During the past week entrance examinations of the Philippine Medical School have been held. These examinations are made necessary because the schools throughout the provinces are not of a uniform grade and the different colleges are too often deficient in their science instruction. There were 34 applicants.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, June 25, 1910.

Annual Meeting of the British Medical Association

The seventy-eighth annual meeting of the British Medical Association, which will be held in the University of London July 22 to 29, promises to be one of the most important and successful functions of the association, both from the scientific and social standpoint. It is many years since the annual meeting was held in the metropolis, which contains a population equal to that of some European countries and is the center of medical as of all other activities in the country. The scientific business will not commence until July 26, when President-Elect H. T. Butlin will deliver his address. Among the social functions is a *conversazione* at the Guildhall given by the lord mayor and corporation.

Tetanus and the Motor Car

The statistics of recent years show a great increase of the number of deaths from tetanus in spite of the use of antitetanic serum and increasing knowledge of the mode of invasion of the disease. In the years 1889 to 1900 the average number of deaths in England and Wales from tetanus was between 30 and 40. In 1900 the number rose to 66, but fell to 57 in 1901. In 1902 an extraordinary increase occurred, the number reaching 201, and this high level has since been surpassed. From 1903 to 1908 the figures are respectively 257, 257, 248, 254, 226 and 180. The *British Medical Journal* suggests that the cause for this extraordinary increase is the motor car. It might at first be thought that the great development of motor traffic of recent years would have an opposite effect, for the concomitant reduction of the number of horses in the streets and roads would diminish the amount of animal excreta lying on them. But simultaneously the distribution of the excreta which remains has been greatly increased by the dust-raising powers of the motor car and the germs have been spread far and wide. To this greater distribution it is suggested that the increase of cases of tetanus is due. The slight fall in 1908 may be due to the fact that the supply of horses is rapidly diminishing in recent years, now that it has been proved that mechanical traction is commercially superior to horse traction.

Typhoid-Carriers in India

The annual report of the sanitary commissioner of India for 1909, which has just been published, shows that while inquiries to trace the source of outbreaks of typhoid fever in the army to water, food, etc., usually failed to yield definite results, the disease was traced to typhoid-carriers in many stations. At Wellington the search was carried out with great thoroughness by making a bacteriologic examination of the excreta of all convalescents, thrice weekly; one man was found to have chronic typhoid bacilluria 13 months after his attack. At Sialkot the investigations revealed the grave danger which may arise from the employment of the native cooks in the kitchens. A servant in the officers' mess was found to have typhoid bacilluria and two cooks in one of the squadrons of a cavalry regiment to have a similar condition. As results of these discoveries all natives applying for the post of cook were examined and another carrier was detected. At other stations the blood was examined for the Widal reaction, which was found in some cooks. Though this does not prove that the subject is a typhoid-carrier, it was considered sufficient grounds for dismissal. Evidence is also recorded of the danger of contracting the disease from patients during the acute stage. This danger is recognized at all stations, but despite careful precautions seven orderlies became infected.

Antikamnia

After a long career of tolerance in the advertising pages of most of the medical journals of this country, including, I regret to say, some of the best, Antikamnia has at last come under editorial censure. The proprietors of this nostrum have managed with some success to appeal to the profession as vendors of an "ethical" preparation and at the same time to the public with the usual wiles of the nostrum humbug. Even the revelations published by THE JOURNAL seem to have had no effect on our editors. One journal at the very time it was publishing a series of articles denouncing and exposing quackery of all kinds and criticising with due severity the lay press for inserting fraudulent advertisements of nostrums had a running advertisement of Antikamnia. The exploiters of this preparation have gone a step too far. They have sent to women through the mail samples and pamphlets, with a letter beginning: "Do you ever suffer from pain? If so please try enclosed sample of Antikamnia tablets. Always prompt and reliable." Among the conditions for which it is claimed to be a sovereign remedy are the menopause, miscarriage pains, painful menstruation, "after debauch." It is especially recommended for Americans in London who are the subjects of "brain fag!" The *British Medical Journal* has received a shower of complaints from doctors whose wives and women patients have received these objectionable pamphlets. It reprints the analysis of this nostrum made by the Council on Pharmacy and Chemistry of the American Medical Association and published in the "Propaganda for Reform in Proprietary Medicines." Your contemporary regrets that several of the testimonials quoted appear to be from physicians and points out that one of the greatest obstacles to reform in the trade in proprietary medicines is that physicians can be found to testify to their virtues. [This subject is commented on editorially in this issue of THE JOURNAL.]

Medical Treatment of School Children in London

A conflict has been in progress for some time between the London County Council and the British Medical Association on the medical treatment of the children who attend the council's schools (the greater part of the children of London). By a recent act the medical inspection of school children was established. A large number of children were found suffering from various diseases—adenoids, otorrhea, enlarged tonsils, impetigo, ringworm, errors of refraction, deafness, etc.—which interfered with their education. It was then realized that it was of no use to make provision for medical inspection if medical treatment did not follow. Unwilling to incur the large expense which this would involve the council made arrangements with

several of the London hospitals to treat the children on condition of receiving donations. To this the British Medical Association has objected that it was wrong in principle for the state to endeavor to get new services carried out on its behalf by trading on the charitable institutions of the country. A further objection is that the scheme provides only for the treatment of about a fourth of the children who require it. The association suggests that the only satisfactory method is for the council to make provision for the treatment of the children by local physicians at suitable local centers. Again, the council has made no provision whatever for the treatment of the children's teeth. As shown in previous letters, dental caries is prevalent to an appalling extent; at the age of 6 nearly 100 per cent. of children suffer from it and in each child an average of 9 teeth are affected. When the permanent teeth appear there is only slight improvement; at the age of 14 less than 15 per cent. of children are free from caries, and this percentage gradually falls until not more than 5 per cent. of adults have a perfect set. No provision has been made for the treatment of children's teeth for the simple reason that the dental hospitals have declined to undertake it and have informed the council that the only method is to establish school-clinics for the purpose.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, June 24, 1910.

Vital Statistics of France for 1909

The *Journal Officiel* has just published the annual vital statistics of France for 1909. The number of births was very small; in fact, only 769,969 live births were recorded, in place of 791,712 in 1908, a diminution of 21,743. The excess of births over deaths was only 13,424, being less by 33,017 than in 1908, when the excess was 46,441. At least a third of this diminution in the excess of births was due to the fact that there were 11,274 more deaths in 1909 than in 1908, the remaining two-thirds being due to the actual diminution of the number of births. In the first semester of 1909 the number of deaths was greater than the number of births by about 28,000; but a fortunate compensation occurred in the course of the second semester, in which there was an excess of 41,524 births, thanks to the lowering of the mortality. As for the share of the various departments in the French birth-rate, it is stated that the only regions where the birth-rate is gaining over the death-rate are the regions of the north, Brittany, the eastern frontiers, the Limousin and Corsica. On the other hand, in the departments of the Garonne and the Rhône valleys each year there are more deaths than births recorded, so that depopulation increases from year to year. In the Department of the Seine there were recorded last year 73,466 births and 74,576 deaths, an excess of 1,110 deaths. While the population of France remains, so to speak, stationary, that of Germany is increasing annually by more than 900,000, that of Austria by more than 300,000, that of England by more than 400,000, that of Italy by more than 400,000. Doubtless the diminution in the birth-rate is far from being a phenomenon peculiar to France, but in the other countries this diminution has not yet attained the same proportions; and, moreover, thanks to their previous headway, these other states preserve a large excess of births. While the average annual excess of births over deaths for each ten thousand inhabitants, or the increase in the population does not exceed 18 for the last five-year period in France, it amounts to 106 in Italy, 113 in Austria, 121 in England, 149 in Germany and 155 in the Netherlands. In other words, the annual increase in population is six to ten times more rapid in the other countries than in France. The number of marriages has also diminished in France. In 1909 there were registered only 307,951 marriages, while the preceding year there were 315,928 and in 1907 314,756. The number of divorces has continued to increase since 1900. There have been, in fact, 12,874 divorces during the last year, against 11,515 in 1908, an increase of 1,359 divorces. There were only 10,938 in 1907, 10,573 in 1906 and only 7,157 in 1900.

Improved Vaccination Against Typhoid

On June 21 Dr. H. Vincent, professor at the school of military hygiene at Val-de-Grâce, read before the Académie de Médecine an interesting communication on vaccination against typhoid fever. The vaccine prepared from dead bacilli by Wright and Leishman, while efficacious, arouses local or general reactions which are often painful. Dr. Vincent, after numerous attempts, prepared a vaccine by autolysis of the living bacilli in physiologic salt solution cleared by centrifugation and sterilized by agitation and mixed with ether. The ether is easily disposed of by evaporation at 37 C. for a few minutes. The vaccine is not heated and no antiseptic is added to it. It is perfectly limpid and is easily absorbed. Used on animals, this vaccine has shown high protective qualities. To immunize human beings Dr. Vincent has used a polyvalent vaccine prepared with eight strains of typhoid and paratyphoid bacilli. This vaccine, which was injected into 13 adult subjects under the skin of the side, was well tolerated and caused only a slight local pain without fever. It was absolutely inoffensive. The serum of the subjects so vaccinated shows very energetic bactericidal properties. In contact with it the Eberth bacillus became deformed, smaller, granular, irregular and unrecognizable. It is active for paratyphoid as well as for typhoid fever and causes a large production of specific antibodies which renders its use of great value for the prevention of typhoid fever.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, June 16, 1910.

German Society for Protection of Infants

May 20 and 21 the second session of the German Society for the Protection of Infants occurred at Munich with a large attendance. The first subject of discussion was the measures which are included in the imperial insurance law for the protection of infants. The provisions that have been introduced in this bill were regarded as in part insufficient. A demand was made that it should be made obligatory on the Krankenkassen to provide for puerperal patients as follows: 1. A weekly allowance up to the amount of the sick relief money for eight weeks, of which at least six must fall in the period after delivery. 2. Service of a midwife and medical treatment for symptoms during pregnancy. 3. Aid on account of pregnancy in case of inability of the pregnant woman to work, amounting to the sick relief money for the entire time of six weeks. 4. In addition to the puerperal aid, a nursing payment amounting to the sick relief money to be paid to the nursing woman as long as she nurses her new-born child up to twelve weeks after delivery. The amount of the nursing money is to be correspondingly diminished if the nursing money and the puerperal money exceed the amount of the regular wages. The expenses which would arise in carrying out these demands would be small in comparison to the object to be accomplished and in view of the fact that they would lead in the end to lessened expense on the part of the Krankenkassen. They amount to 22 cents (90 pfennigs) per head of the insured for the nursing payment and 10 cents (40 pfennig) per head for the midwife and medical services.

There was also considerable debate on the removal of the evils connected with the German wet-nurse system. It was demanded that the furnishing of wet nurses should be placed under the supervision of the state. So far only one state in Germany, viz., Hamburg, has regulated wet nursing by law and there a physician is in charge of the matter. According to Professor Schlossmann it would be best to forbid the furnishing of wet nurses by private parties altogether, and turn the matter over to the foundling asylums. The foundling asylums are best prepared to form a safe judgment as to the health and nursing capacity of the wet nurse and particularly to decide whether she is free from syphilis or not. On the other hand, the wet nurses should also be protected in their rights, for instance against infection by the child they nurse. It should also be provided that a mother shall offer herself as nurse only when she has nursed her own child for three months. The foundling asylum should oversee and provide for the nurse's child for two years. The asylums should make regular reports to the authorities in charge, regarding the children of the nurses. In the discussion much stress was properly laid on the great difficulty in the practical carrying out of these provisions. The physician would be burdened with a responsibility which he might not be able to accept. The furnishing of nurses by asylums would be very expensive. It would be best, if on the whole there were no wet nurses; reference was made to America, where wet nurses are said to exist no longer. For the displacement of the wet nurses, the so-called nursing women (*Stillfrauen*) should be recommended, healthy women, known to the physician, who go to the house of their employer several times a day and nurse the child without completely depriving their own child of breast milk.

Finally, the subject of infant hygiene in the country was taken up, especially the question of the cooperation of physicians and midwives in the prevention of infant mortality. As a chief cause of infant mortality in the country, errors of diet

and the indolence of mothers were given. Where the infants are breast fed, the mortality in the country is small. Essentially the propaganda is one for nursing reform and this can be most efficiently carried on by the midwives. The nursing premiums given to the midwives have proved very useful in this respect in small cities; 13 cents (50 pfennig) after six weeks' nursing. To avoid contradiction in the advice of physicians they should be required to employ a circular of instruction. Milk kitchens are indispensable in small cities. The introduction of trade guardianship, regulation of the system of boarding out children, the erection of institutions for sick infants and the improvement of the housing conditions are especially needed in the small cities. It is not practicable to extend the present arrangements for the care of infants in the cities to the open country. In the country nursing premiums are not necessary, as there the women as a rule have time for nursing. It is important to improve the method of inspection of the dead, as carried out in the country; the cause of every death should be exactly determined.

Personal

Privy Councillor Goldscheider has been selected as the successor of Professor Senator. Goldscheider has been until now director of the department for internal medicine of the Rudolf Virchow Hospital, which was opened under his direction. He is very glad I am sure to exchange this position for that of the directorship of the university medical policlinic. The numerous administrative demands which are made on the director of a hospital, especially so large a one as the Virchow Hospital, require so much of a clinician's time, that it is easy to understand his dissatisfaction with his present place. Moreover in such a position conflicts with the authorities are very apt to arise and in this case with the municipal authorities, and as Goldscheider possesses a somewhat excitable temperament such conflicts have occurred to a greater extent than was agreeable to him.

The filling of the chair of ophthalmology at Heidelberg which Professor Leber resigned on account of his advanced age has caused some difficulty. Professor Hess, of Würzburg, and Professor Axenfeld, of Freiburg, refused the call, but now it has been accepted by Professor Wagenmann, of Jena.

Dedication of the New Building of the Kaiser Wilhelm Academy

June 10 the new building of the Kaiser Wilhelm Academy for the instruction of military surgeons was dedicated in the presence of the Kaiser and the Empress and many ministers and other officials. The institution is designed, as its name indicates, for the instruction of students of medicine who wish afterward to serve as army surgeons in the active Prussian army. It was founded Aug. 2, 1795, under the name of the "Pepinière." The number of students has continually increased and as the old institution in all its arrangements was no longer suitable to modern requirements, the corner-stone of the new building was laid five years ago. The building is arranged for the accommodation of about 500 students. Like all other students they attend the lectures of the university and are expected to follow the same course in general, but in the academy they are also instructed, especially by lectures and practice, in military surgery and hygiene. Laboratories for scientific investigation are also provided. The new building, which was erected at an expense of 81,500,000 (7,500,000 marks), is architecturally a very beautiful edifice and one most admirably suited to its purposes. A series of valuable collections has been installed in it; a collection of drugs, one of instruments and dressings, a collection of models of apparatus for the care of the sick, for transportation of the sick, for lodging the sick, for the study of ophthalmology, pathologic anatomy and of ear and throat diseases. There is also an anatomic collection, a collection for physics, a collection for military surgery, including 150 preparations of gunshot wounds of the bones from many wars, presented by Professor v. Esmarch, and finally a library which at present contains about 68,000 volumes. Further there is found in the new building the hygienic laboratory, in which investigations on the provision of drinking water, on preserved foods for the army, on the clothing of soldiers, on methods of disinfection, etc., will be carried on. In the academy postgraduate courses for sanitary officers will be annually provided. A number of our most distinguished physicians have been graduates of the academy: Helmholtz, Virchow, Leyden, Behring, Löffler, Gaffky, etc.—which is good evidence of the excellent instruction which the youths studying military medicine receive at this place.

VIENNA LETTER

(*From Our Regular Correspondent*)

VIENNA, June 23, 1910.

The Right to Grant the Title of Specialist

A difference of opinion has arisen recently between the medical council and the government as to the right to grant the title of specialist. For a few years endeavors have been made to regulate the question and to prevent the increase of self-styled specialists. The right to confer this title was claimed by two universities, and special examinations or at least certain studies were demanded as the minimum requirements. In the case, a doctor who had made the treatment of diseases by physical means, like massage, gymnastics, electricity, his special study, settled down in a country town and asked and received from the medical council permission to call himself "specialist for physical treatment" (*Specialarzt für physikalische Heilmethoden*) which, however, was not recognized by the district government officer. At length the right of the council to grant the title was recognized, and the right of a medical representative body to regulate the affairs of its own members has been clearly acknowledged for the first time in this country. In connection with other satisfactory achievements, like the right to settle financial disputes between practitioners and private corporations, the growing influence of medical representatives is clearly shown, proving the value of a good organization.

Benzoic Acid—A Dangerous Food Preservative

By order of the Bureau of Health of the ministry of home affairs (*Ministerium des Innern*) to whose notice several cases of adulteration of food by preservatives had come, an investigation of the question was recently conducted. The laboratory for food examination in Vienna, a government institution, has recently published the results of the investigations. It has been clearly proved that the addition of benzoic acid is necessary only to disguise either the smell or the color of articles of food which are not fit for use and which would otherwise not be procured by the public, and that thus it tends to be used in a fraudulent way. Apart from this fact, its constant use in even small doses may cause irritation of the mucous membranes of the gastro-intestinal tract. Therefore its use was condemned as a preservative and an order made to seize all articles containing such addition in a higher percentage than 0.025 per cent.

Results of Surgical Treatment of Lupus

In a publication dealing with the necessity of centralizing the endeavors to treat lupus systematically, Professor Lang, an authority on this subject, is strongly in favor of surgical treatment of certain forms of this disfiguring disease, in preference to the Finsen treatment. He has operated on 455 patients, showing in 250 instances lupus of the face. The latter cases are very interesting, as they prove that in skilled hands excellent cosmetic and functional results can be expected from surgical treatment with a minimum expenditure of time and expense in comparison with the Finsen method. The lesion in the face was in 95 cases larger than a five-shilling piece, in some instances nearly covering one side of the face. Lang, formerly head of the dermatologic department of the Vienna General Hospital, extirpated all these lupus patches and followed up the extirpation by plastic operations. Of all his patients operated on for lupus, 273 remained free from all recurrence for 16 years (the length of time that he has employed his method). Three patients had a recurrence, but outside of the field of operation, and after 12, 3¾ and 3 years, respectively; 22 of the patients had recurrence within the field of operation, which yielded to another surgical interference, with good results, while 10 had inoperable recurrence out of 455. All these 10 belong to the first half of the cases, or 7 to the first quarter, showing clearly the better results with improvement of technic and of indication. Extirpation is, of course, not always possible. Surgical removal is indicated only when the patch is well defined, which is not the case when it is in the mucous membranes. Size and number are not contraindications, but progressive anemia and grave complications of other organs contraindicate operative measures. In these cases Finsen's method is indicated. Its only disadvantages are the expense and the duration of treatment. Lang is absolutely opposed to excochleation and scarification of lupus, because of the resulting dense scars which hinder later excision or Finsen treatment. He insists that every lupus station shall be in charge of a competent surgeon dermatologist, who is capable of dealing with the cases according as they require excision, plastic operations, Finsen, hot-air or the actual cautery. Such

equipments require great funds; therefore, it is better to have one large, completely equipped institute than several small ones. As the means of the Vienna Lupusheim are rather limited, the adoption of the light method alone would have sufficed to consume the funds at disposal. Therefore, the advantage of the surgical method is evident, as the resulting scars are as supple as those of the light treatment.

Correspondence

Practical Examinations for Medical License

To the Editor:—Of all the methods of raising standards, efficiency of examination is no doubt by far the best plan. I doubt whether any other branch is more exposed to a reeling off of mere patter instead of the furnishing of evidence of training than that of psychopathology and psychiatry. The differences of teaching are so great and the vocabulary seems to play such an undue part that there is no fair way to size up the efficiency of a man outside of a demonstration of what he does with an actual case. This plan was in practice when I passed my state examination at Zurich, in Switzerland, in 1890; both in psychiatry and in medicolegal work we had to examine and report on a case, which is perfectly feasible and really the only way to get around the differences of teaching and the hollowness of answers to mere abstract questions. I therefore plead for the introduction of these practical examinations as it will be as much to the interest of the public as to the interest of true efficiency of the work of our colleges.

ADOLPH MEYER, New York.
Director-elect of the Henry Phipps Psychiatric Clinic, Johns Hopkins University, Baltimore.

McCourt's Early Study of Cancer Treatment by Toxins

To the Editor:—A rereading of your editorial on "Dr. Hodenpyl, a True Scientist" (THE JOURNAL, May 14, 1910, p. 1618), and the article of J. W. Vaughan (May 7, 1910, p. 1510) describing the treatment of cancer by the cancer residue, recalls to my mind the earlier work of Dr. P. J. McCourt. Dr. McCourt for a long time treated malignant neoplasms by a diluted glycerin solution of their toxins. The remedy was administered per os. Some very encouraging results were reported, including some apparent cures. A point much insisted on by Dr. McCourt and worthy attention of other investigators is that the remedy used should represent the toxins, not only of the neoplasm but of other complicating affections, such as syphilis, tuberculosis, etc.

At the time when Dr. McCourt began his work, the immunity theory was not distinctly worked out, so that his work appears to us somewhat crude, but it seems to have been along much the same lines as the later work and deserves attention, not only as a matter of historical interest but possibly also because it may be fruitful in suggestion to other investigators. Through former acquaintance with the doctor I am able to send you reprints of his articles on this subject published in the *Medical Review of Reviews*, November, 1899, February, 1900, and April, 1904. I believe these articles are worthy of study by those who are interested in this line of work.

J. W. WALLHEIM, M.D., New York.

Comments on Dr. Pettey's Article Criticizing the Lambert Treatment for Drug Addictions

To the Editor:—It would appear from a casual reading of Dr. Pettey's article (THE JOURNAL, May 14, 1910, p. 1593) that his method of procedure in treating drug addictions is radically opposed to that set forth by Dr. Alexander Lambert (THE JOURNAL, Sept. 25, 1909, p. 985). As a matter of fact, the underlying principle and purpose in both treatments are the same. Dr. Pettey's article, on careful analysis, reads not unlike a document designed to explain the various steps followed in the Lambert method.

Dr. Pettey lays stress on the fact that he administers the purgatives so that they may act at a time when the paralyzing effect on peristalsis, of the narcotic to which the patient is addicted, is at a minimum. That is, he takes advantage of the habitué's customary absence from his drug during his sleeping hours; when, naturally, peristalsis is being reestablished. Precisely this idea is adhered to in the treatment advocated by Dr. Lambert. The latter waits fourteen hours from the time he administers the narcotic before beginning active purgation; and further narcotics are not administered until this is obtained. Dr. Pettey, too, insists that the narcotic must not be given again until the bowels have been thoroughly emptied. Thus it is seen that in each case cathartic activity coincides with the fag-end of narcosis. Dr. Pettey decries the drastic cathartics employed by Dr. Lambert and then proceeds to advise a dosage which does not appear to me less heroic when we consider the powerful check the belladonna exerts in Dr. Lambert's plan. Moreover, in the cases in which I have used the Lambert method, the catharsis has not been more than was needed for successful elimination and has seemed secure from dangerous purgation. It must be borne in mind, too, that Dr. Pettey is outlining a course of treatment for a patient taking not more than 10 grains of morphin daily, while Dr. Lambert's treatment embraces the maximum amount of narcotic that may be taken.

Dr. Pettey aims to get the same results by the use of the alkaloids, atropin and scopolamin, which are obtained by Dr. Lambert from the belladonna and hyocyamus from which the alkaloids are derived. In the one, the administration is hypodermatic; in the other, by mouth. There are objections to both as a routine practice and virtue in either where indicated. Dr. Pettey rightly objects to the use of the term "specific" as applied to the combination used by Dr. Lambert. The most that can be said for the drugs in this combination is that they are antidotal. But I cannot agree with Dr. Pettey when he says that the prickly ash has no value in the treatment. This drug is a stomachic and intestinal stimulant and certainly gives the stomach greater tolerance for the other drugs used.

In both treatments characteristic bilious stools are sought for. Dr. Lambert says that "the castor oil will produce a characteristic stool composed of mucus and bile 'after which' the patient is relaxed and comfortable." Dr. Pettey states that the hyposulphite causes the "patient to have small bilious stools which prepare him for a rapid convalescence." Now, to that part of Dr. Lambert's article concerning this phase of the treatment Dr. Pettey gives this critical interpretation: that the patient reaches a "state of placidity and comfort" because he has had a liquid green stool composed of mucus and bile. I believe, however, that anyone will see from a careful reading of the two articles that the significance attached to this stool is identical in the minds of the two men. Each considers it merely as an evidence that the "hyperesthetic state" has terminated and effective elimination taken place.

Dr. Pettey has failed to call attention to a noticeable omission in the Lambert paper. While the method for treating alcoholics is carefully outlined, yet in the appended table of cases, the physician endeavoring to apply the formula finds not a case of alcoholism recorded. Then, too, Dr. Lambert's article seems to say that the treatment for a morphinist may cease at a specified time—the "characteristic stool shows that the entire treatment may cease." Yet a study of the appended table shows that in the majority of cases the so-called "specific" was continued for longer or shorter periods after the time at which, judging from the treatment outlined, it might have been stopped. In my own cases, I have found it necessary to continue the "specific" in most cases for a somewhat longer time than Dr. Lambert designates.

While it is necessary often, as Dr. Pettey suggests, to detain patients in the sanitarium for a convalescence of "one or two months," I believe that patients are sometimes harmed by over-careful carrying along. I have obtained excellent results by dismissing patients from my sanitarium just as soon as it seems at all advisable, and letting them feel that they must rely on their own strength. In most cases, however, I find it best to have patients return to my office at intervals until I am confident that their self-reliance is fully reestablished.

C. C. WHOLEY, Pittsburg, Pa.

Marriages

CHARLES J. WEHR, M.D., to Miss Lena Hitzelberger, both of Bellevue, Ohio, June 18.

ALEXANDER J. ROONEY, M.D., to Miss Sophia Livermore, both of Brooklyn, June 21.

KINCHEN R. TAYLOR, M.D., to Mrs. Rosina C. Morton, both of New York City, June 19.

JOHN H. THOMPSON, M.D., to Miss Mabel Ayers, both of Greenspring, Ohio, June 22.

H. SETH ANDERTON, M.D., Diboll, Tex., to Miss Margery J. Smith, at Baltimore, June 24.

FREDERICK GEORGE DYAS, M.D., Chicago, to Miss Mabel Freer, of Hinsdale, Ill., June 29.

JACOB JOHN KOCHER, M.D., to Miss Clareta Margaret Hicks, both of San Jose, Cal., June 15.

JOHN B. WALKER, M.D., to Miss Mai Elmendorf Hackstaff, both of New York City, June 22.

NOEL GANO MUSSEY, M.D., Glendale, Ohio, to Miss Penelope Lever, of Loveland, Ohio, June 16.

JULIUS B. EVANS, M.D., and MARY L. EVANS, M.D., both of Ada, Ohio, at Columbus, June 20.

LESLIE W. MORSMAN, M.D., Omaha, to Mrs. Margaret M. Thurwood, of Vail, Iowa, June 16.

CHARLES N. STURDEVANT, M.D., Detroit, to Miss Katharine Irvine, at Mercersburg, Pa., June 18.

J. RAYMOND KIRK, M.D., Paw Paw, W. Va., to Miss Mary Arnold, at Springfield, W. Va., June 18.

ARTHUR GEORGE BLAKESLEE, M.D., to Miss Helen Catherine Monroe, both of New York City, June 22.

WALTER GREEN EVANS, M.D., Stuart, Okla., to Miss Hilda Abernethy Grayson, of Mobile, Ala., June 15.

GUSTAVUS GOLSETH, M.D., Jamestown, N. Dak., to Miss Florence Pugh, of Casselton, N. Dak., June 14.

ELWIN CARL SCHNEIDER, M.D., Washington, D. C., to Miss Celina Cruett King, at Alexandria, Va., June 21.

JOHN PETER SCHNEBLE, M.D., Woodhaven, N. Y., to Miss Ida Brandenstein, of Glendale, Brooklyn, June 15.

Deaths

Dwight Robbins Burrell, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1868; a member of the Medical Society of the State of New York, American Medico-Psychological Association, Rochester Pathological Society, and Rochester Academy of Medicine; resident physician at Brigham Hall; one of the incorporators of the Ferris Thompson Memorial Hospital, Canandaigua; a veteran of the Civil War; died at his home in Canandaigua, June 18, from cerebral hemorrhage, aged 67.

Alfred Wanstall, M.D. New York Homeopathic Medical College and Hospital, New York City, 1875; a member of the American Medical Association; of Baltimore; aurist and physician in charge of the Baltimore Homeopathic Free Dispensary; a member of the staff of the Atlantic Medical College, Baltimore; died at Baltimore, recently, from heart disease, aged 58.

Arthur Ludwig Anderson, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1908; a member of the American Medical Association; health officer of Aurora, Ill.; died at the St. Charles Hospital, Aurora, June 26, as the result of complications following an operation for appendicitis some time before, aged 28.

Jesse W. Downey, M.D. University of Maryland, School of Medicine, Baltimore, 1869; a member of the Medical and Chirurgical Faculty of Maryland; a Confederate veteran; for many years surgeon of the First Regiment, Maryland National Guard; died at his home in New Market, June 25, from cerebral hemorrhage, aged 62.

Willis Sidney Anderson, M.D. College of Physicians and Surgeons, New York City, 1891; a member of the American Medical Association; of Detroit, Mich.; in charge of the eye and ear department at Harper Hospital for twenty years; was drowned near Belle Isle, June 27, by the capsizing of his canoe, aged 42.

Orin A. Lyon, M.D. Homeopathic Hospital College, Cleveland, 1881; a member of the Northeastern Medical Society; of Akron, Ohio; died June 17, from internal injuries caused by being crushed between his automobile and a tree while cranking the automobile a few days before, aged 55.

Henry Stanley Warren, M.D. Harvard Medical School, Boston, 1900; a member of the American Medical Association; for two years house surgeon at the Boston Children's Hospital; died at the Massachusetts General Hospital in that city, June 25, from cerebral hemorrhage, aged 36.

Clifford Harvey Robinson, M.D. Western Pennsylvania Medical College, Pittsburg, 1900; of Pittsburg; died at the home of his mother in that city, June 26, following an attack of pleurisy last December from which he had never fully recovered, aged 33.

Charles Larkin McCracken, M.D. University of Toronto, Ont., 1881; a member of the Medical Society of the State of California; tax collector of San Mateo county, California; died at his home in Redwood City, June 24, from heart disease, aged 48.

Herman D. Marcus, M.D. Medico-Chirurgical College of Philadelphia, 1891; a member of the American Medical Association; is said to have committed suicide at his home in Atlantic City, N. J., June 16, by taking a solution of cyanid of potassium.

O. T. Huebner, M.D. Hahnemann Medical College and Hospital, Philadelphia, 1869; a member of the Board of Trustees of the Millersville State Normal School; died at his home in Lancaster, Pa., June 25, from dropsy and heart disease, aged 74.

Elijah Blacksheare Bush, Jr., M.D. Atlanta (Ga.) School of Medicine, 1909; a member of the Medical Association of Georgia; surgeon to the Georgia railroad; died suddenly at his home in Colquitt, June 4, from pulmonary tuberculosis, aged 23.

Jacob Huber, M.D. Medical College of Ohio, Cincinnati, 1863; Bellevue Hospital Medical College, 1879; a member of the Illinois State Medical Society; a Civil War veteran; a former mayor and alderman of Pana, Ill.; died at that place, June 27, aged 70.

John R. Shannon, M. D. Southern Medical College, Atlanta, Ga., 1893; a member of the Medical Association of Georgia; at one time president of the Sixth Congressional District Medical Association; died at his home in Cabaniss, near Juliette, Ga., June 22.

Charles L. Gates (exemption certificate; license, 1883); one of the earliest settlers of Hancock, Minn., and a resident of that place for thirty years; was killed while walking on the Great Northern track near Hancock, June 19, aged about 75.

James Eloi Hickley, M.D. Baltimore Medical College, 1903; a member of the Massachusetts Medical Society and American Academy of Medicine; of Springfield, Mass.; died in that city, Dec. 4, 1909, from pulmonary tuberculosis, aged 31.

Belle M. Walrath, M.D. Northwestern University Woman's Medical School, Chicago, 1882; a member of the American Medical Association; of St. Paul, Minn.; died in St. Luke's Hospital, St. Paul, June 20, from cancer, aged 62.

William J. Whittaker, M. D. Royal College of Surgery, Dublin, Ireland, 1863; King's and Queen's College of Physicians, Dublin, 1864; a retired physician of Kansas City, Mo.; died at his home in that city, June 22, aged 69.

Albert Osborn Bogert, M.D. College of Physicians and Surgeons, New York City, 1875; a member of the Medical Society of the State of New York; died suddenly at his home in Spring Valley, N. Y., June 25, aged 59.

C. H. O. Young, M.D. College of Physicians and Surgeons, Baltimore, 1875; a member of the Kentucky State Medical Association; a practitioner of Flippin, Ky., for forty years; died at that place, April 22, aged 64.

George W. Cox, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1865; formerly of Clayton, Ill.; died at the Masonic Home at Sullivan, Ill., June 16, where he had lived for the past three years, aged 49.

Stephen Frost Horton, M.D. New York University Medical College, New York City, 1886; a member of the Medical Society of the State of New York; died at his home in Peekskill, N. Y., June 22, aged 45.

Harvey S. Seymour, M.D. Chicago Homeopathic Medical College, 1883; of Sugar Grove, Ill.; a veteran of the Civil War; died at the Aurora, (Ill.) Hospital, June 23, from pernicious anemia, aged 66.

William Black Rowland Jordan, M.D. College of Physicians and Surgeons, Baltimore, 1886; died at his home in Liberty Grove, Md., June 8, from ischiorectal abscess, aged 50.

Isaac D. Moore, M.D. Medical College of Georgia, Augusta, 1856; of White plains, Ga.; a surgeon during the Civil War; died at his home, June 16, from paralysis, aged 81.

William M. Hendrickson, M.D. Albany (N. Y.) Medical College, 1863; a prominent physician of Coupeville, Wash.; died at that place, May 30, from nephritis, aged 68.

John Colby Landon, M.D. Detroit (Mich.) College of Medicine, 1896; of Philadelphia, Pa.; died in that city, June 20, from heart disease, aged 40.

Emmett C. King, M.D. New York Homeopathic Medical College and Hospital, 1880; died at his home in Hartford, Conn., June 17, aged 58.

James M. Massie, M.D. Physio-Medical College of Indiana, Indianapolis, 1889; of Fort Worth, Texas; died June 15, from nephritis.

Lucius M. Quinn (license, Miss.); died at Holmesville, Miss., Nov. 5, 1909, from hepatic abscess, aged 62.

Pharmacology

DIABETOL

A Diabetes Cure of the "Tropical Herb" Type

Bearing in mind that the nostrum exploiter finds his most fertile field in the "treatment" of those diseases which kill slowly, it is not surprising to find many fake specifics on the market for the cure of diabetes. The average victim of this disease rebels at the only treatment which holds out any hope of success—careful dieting and strict attention to hygiene—and demands of the physician the impossible: a drug that is specific for his ailment. Those who treat diabetics know how terribly difficult it is to get these patients to obey the orders as to diet, etc., and how extremely prone such unfortunates are to experiment with the thousand-and-one "cures" recommended to them by well-meaning friends or by the manufacturers. The field is thus a rich one for the nostrum exploiter and needless to say is being assiduously tilled.

"Diabetol" is put on the market by the Ames Chemical Company, Whitney's Point, N. Y., and is heralded through the newspapers as "A New Discovery for the Cure of Diabetes and Kidney Diseases." The "discovery" was made, we are told, by Frank M. Ames, a civil engineer, who spent more than twenty years in tropical American countries, most of the time being in "tropical jungles." From an "absolutely reliable" native Mr. Ames learned of the existence of a "herb that would cure diabetes," and from experiments which he has made with this "herbal remedy" he finds that it "has a direct specific action in the cure of this dreaded disease."

In the advertising pamphlet the physician is told that "diabetol is not a patent or secret medicine." How much reliance can be placed on this statement may be seen by the following reply from the Ames Chemical Company to a physician who, on the strength of the above claim, wrote for information regarding this nostrum:

> "We have received your favor and would say in regard to our herb, that we do not know whether it has been classified botanically or not, as we only know the Indian name and location where it grows, which of course *we have to keep secret* [Italics ours.—ED.] to protect ourselves."
>
> "Diabetol herb will certainly cure diabetes and do it quick. . . ."

The old scheme of a "home-made" uranalysis, by which the patient may confidently be expected to frighten himself into purchasing the nostrum, is worked as follows:

> "Set aside a quantity of your morning urine for twenty-four hours, then if found cloudy, stringy or with sediment there is something wrong and you should take a few packages of Diabetol to correct your system, thereby elliminating the invasion of Diabetes or Bright's Disease."

It is hardly necessary to say that this "test" will indicate the presence of incipient diabetes or Bright's disease in no small portion of the human race.

On an advertising circular headed, "First week results with Diabetol," the following statements are made:

> "Diabetol acts like magic in the cure of diabetes and the patient improves rapidly from the first dose. Note a few of the marvelous results. Can any other remedy approximate it? We challenge comparison."

Then follows a list of individuals who enthusiastically endorse Diabetol. The worldly-wisdom of the exploiter of Diabetol in publishing "first week results" instead of later reports, was made evident when we began to receive letters from physicians to whom we had written for further information, regarding these cases. For instance:

WHAT THE TESTIMONIALS SAY	WHAT PHYSICIANS WRITE
"Have gained 5 pounds in 12 days and specific gravity lowered 13 points with a slight reduction in sugar; guess I am on the right track at last."—N. C. B., Mich.	"Relative to the matter of Mr. N. C. B.: he died May 29, 1909, from diabetic coma."
"The trial treatment has improved me a great deal and I hope to find a permanent cure in your remedy."—F. P. R., Tenn.	"Mr. F. P. R. gave Diabetol a good trial but he received no benefit from it; died about 3 weeks ago."
"I received good results from sample."—A. M. G., Pa.	"Regarding Mr. A. M. G., have conferred with both the chief of police and postmaster and am unable to locate a party having this name."
"I received your sample package of Diabetol and I think it will do all you claim."—W. E. L., Ohio.	"Mrs. W. E. L. . . . has progressively lost weight from 175 to 144 pounds. . . . She estimates the quantity of urine each 24 hours to more than fill a 12-quart pail. . . . I have to-day examined a sample of her urine and find the sp. gr. 1.034 with plenty of sugar."
"Have taken about one-half of the trial package you sent me and feel much improved already."—E. N. T., New York.	"Mr. E. N. T.'s appearance is now very good . . . says he is still weak; he tells me that *when he adheres closely to diet* and takes the medicine he feels much better . . ."
"Received sample, and it has made a big improvement in me."—G. W. Y., Md.	"Mr. G. W. Y. died Jan. —, 1910."
"I am feeling much better."—H. R., Ind.	"The party referred to . . . never had diabetes . . ."
"The sample package sent me has proved more than satisfactory."—A. P. B., New York.	"Mr. A. P. B. has had diabetes over 10 years . . . his condition is about the same as usual. . . . He now knows Diabetol did him no good."
"I have been using your herb for diabetes for four weeks with success. . . . After another package I expect very little trace of sugar in my system."—J. N. H., Iowa.	"Mr. J. N. H. had diabetes and still has. . . . He stated to the Diabetol company that he felt a little better . . . but he soon felt the same as before. I tested his urine and found it loaded with sugar."

To determine so far as possible what the nature of this marvelous "tropical herb" is, the help of Prof. C. F. Millspaugh was sought. Professor Millspaugh is curator of the department of botany of the Field Museum, Chicago, an institution having one of the most extensive collections in botany extant, enabling the experts there to determine the character and source of almost anything that belongs to the plant world. Professor Millspaugh's reports:

ANALYSIS

> "I have this day examined the contents of a package of Diabetol Herb received from you in original and unbroken package. The package contains broken young stems and leaves with a few flower buds and bits of developed flowers intermixed. All the material is from a shrub belonging to the Bignonia family and known as *Stenolobium stans* (L.) Don. *(Bignonia stans* Linn.; *Tecoma stans* Juss.) This shrub grown more or less plentifully from Arizona southward through Mexico and Central America to the northern part of South America, throughout the West Indies and to the Bahamas and south Florida. The contents of the package suggests to me that its source was somewhere near the State of Hidalgo, Mexico.

"This shrub has more or less local reputation as a diuretic and is used to some extent for that purpose by the natives of the regions in which it grows."

Diabetol, then, differs not at all from other nostrums of its class. The mysterious secret herb, the absurdly broad claims, the worthless testimonials, the exploiter without medical knowledge—all these elements enter into so many of the widely advertised "sure cures" that one would think that the very lack of originality would make their sale impossible. But there is no limit to the credulity of the hopelessly ill and on this weakness the great American fraud thrives.

CALCIUM CHLORHYDROPHOSPHATE

C. R. Noyes, pharmacist, St. Paul, Minn., calls attention to the formula on page 152 of the National Formulary, which he thinks of interest, in view of the article on calcium chlorophosphate in THE JOURNAL, May 7, 1910, page 1560.

The formula referred to is for "syrupus calcii chlorhydrophosphatis," or syrup of calcium chlorhydrophosphate. In the preparation of this syrup calcium phosphate is dissolved by the addition of hydrochloric acid. It therefore does not contain the hypothetical or impossible compound indicated by its title, but instead appears to owe its therapeutic value to calcium acid phosphate and calcium chlorid. Thus THE JOURNAL'S criticism of Pautauberge's solution, to the effect that it is claimed to contain a chemical substance unknown to chemists, may with equal fairness be applied to the National Formulary preparation referred to. The assertion has been made that a number of the preparations in the National Formulary have been devised in imitation of, or rather as substitutes for, certain proprietary mixtures which had become somewhat popular. This assertion derives a certain degree of support by a comparison of the two preparations in question. In naming the preparation, it is probable that the makers of the formulary were guided by the composition claimed for Pautauberge's solution, although they should have known there is no such substance as calcium chlorhydrophosphate.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

MUNICIPAL HOSPITALS

To the Editor:—Are there any municipal hospitals built on the plan of providing a room for each patient? Two or three years ago you had some plans in THE JOURNAL, which I put away, but have lost. Please refer me to them. T. D. LONGINO, Atlanta, Ga.

ANSWER.—So far as we know there is no municipal hospital in which each patient has a private room. There are private rooms in nearly all municipal hospitals for certain classes of patients, such as the insane, some of the infectious diseases, and so on. In a number of children's hospitals, and in general hospitals that have children's departments, there are what are known as observation wards; these are private rooms fitted with private bath, basin and toilet, so that a child suffering from one of the exanthemata, or suspected of developing a contagion or infection, can be isolated until the disease develops. These rooms are built with part of the partitions of glass, with the head nurse's desk so placed that she can look through two or three, or even more of these private rooms.

Nearly all detention hospitals which are municipal in character, and supported by the public are made up of a private room for each patient, and a common recreation room where a single guard can watch a number of patients as they exercise or associate with each other. The tendency, however, is to construct hospitals generally with wards very much smaller, containing say a maximum of ten or fifteen beds. Nearly all municipal hospitals are now constructed with one or more so-called "quiet rooms" off each ward, in which special cases may be placed, as for instance, immediately following operations, delirious patients, patients that are noisy, patients suffering from some nervous affection, making them oversensitive to noises made by others.

The articles referred to are as follows:

Sturm, Meyer: The Planning and Construction of Hospitals for Smaller Cities and Towns, THE JOURNAL, Feb. 20, 1909, p. 610.

Holmes, Bayard: A Suggestive Plan for a Modern General Metropolitan Hospital of Five Hundred Beds, THE JOURNAL, March 28, 1908, p. 1025.

Thompson, W. Gilman: Modern Hospital Construction, THE JOURNAL, Sept. 21, 1907, p. 993.

Ochsner, A. J.: Practical Points of Economy in Hospital Construction, THE JOURNAL, Sept. 21, 1907, p. 990

SERUM FOR EXOPHTHALMIC GOITER

To the Editor:—Please inform me where Rogers' serum for the treatment of goiter can be obtained; also give brief comment as to its usage. S. W. T.

ANSWER.—The antithyroid serum for use in exophthalmic goiter or Graves' disease can be obtained on application to Dr. S. P. Beebe, at the Loomis Laboratory, 414 East Twenty-sixth Street, New York City. It will be furnished only after receiving complete information in regard to the particular case under treatment. It is of therapeutic value only in cases of so-called exophthalmic goiter. It is of no value in the type known as "simple goiter." The antithyroid serum is not harmless and cannot be administered with impunity on the principle that if a little is good, more is better. The dosage must be carefully regulated to suit the condition of the patient. The injections are rarely given oftener than once in twenty-four hours and are not to be continued in the face of manifest increasing severity of reaction. The serum treatment, with its modifications, has been discussed in the November, 1908, number of the *Archives of Internal Medicine* and in the *Annals of Surgery*, December, 1909, and February, 1910. As the serum is not on a commercial basis, and as it is prepared at large expense by the Cornell University Medical College, in which the Loomis Laboratory is devoted to the department of experimental therapeutics, the laboratory should be asked to supply it only in cases in which it is really indicated, and therefore careful case records should be furnished with all requests for the serum. These records of cases are preserved for reference.

The Public Service

Medical Department, U. S. Army

Changes for the week ended July 2, 1910:

Nichols, Henry J., capt., granted 3 months' leave of absence, with permission to go beyond sea, about July 1, 1910.

Allen, John H., major, left Fort Meyer, Va., accompanying Headquarters Band and Troops A, B and D, 15th Cavalry, en route to Camp of Instruction, Gettysburg, Pa.

Waterhouse, S. M., major, left Fort Washington, Md., en route to Washington Barracks, D. C., for duty with Headquarters, and Cos. A and D, 1st Batt. Engineers, to Camp of Instruction at Gettysburg, Pa.

Sheep, William J., lieut., left Fort Myer, Va., accompanying Headquarters 2nd Battalion and Batteries E and F, 3rd Field Artillery, to Camp of Instruction, Gettysburg, Pa.

Cassaday, George H., dental surgeon, ordered to proceed to Fort Baker, Cal., for temporary duty.

Reno, W. W., major, left Fort McKinley, Me., en route to South Framingham, Mass., for duty as inspector-instructor to Ambulance Co. and Hospital Co. Massachusetts Militia.

Hollingsworth, R. M., dental surgeon, contract annulled June 29, 1910.

Ingalls, R. E., dental surgeon, left Fort Douglas, en route to Fort Duchesne, Utah, for temporary duty.

Talbott, E. M., capt., and Haverkampf, G. W., lieut., left Fort D. A. Russell, Wyo., with Co. A, Hospital Corps, en route to military tournament, Chicago.

Williams, H. R., M. R. C., left Camp Upton, Sparta, Wis., en route to military tournament Chicago.

Cosman, George H. R., major, left Fort Barrancas, Fla., en route to Chickamauga Park, Ga., for duty at Camp of Instruction.

Wickline, William A., capt., and Bastion, J. E., lieut., left Walter Reed General Hospital, Takoma Park, D. C., with detachment of Hospital Corps Co. C, en route to Camp of Instruction, Gettysburg, Pa.

Taylor, Blair D., col., left Atlanta, Ga., for duty as Chief Surgeon, Camp of Instruction, Chickamauga Park, Ga.

Reynolds, Frederick P., major, ordered to proceed from Fort Monroe, Va., to Kavner, N. Y., and report on arrival to the senior instructor at the encampment of infantry officers, 3rd Brigade, State of New York, for duty delivering lectures on camp sanitary, etc.

Appel, Aaron, H., col., detailed as Chief Surgeon of Camp of Instruction at the Fort D. A. Russell Target and Maneuver Reservation, Wyo.

Ingalls, Raymond E., dental surgeon, ordered from Fort Douglas, Utah, to Fort Duchesne, Utah, thence to Fort Wingate, N. Mex., for such professional services as may be required of him at those posts.

Shook, Jay R., major, ordered to Denver to take physical test.

Marietta, Shelley E., M. R. C., with one sergeant and one private first class or private H. C., with one ambulance and necessary medical supplies, ordered from Fort Des Moines, Iowa, by marching, to Iowa City, Iowa, to participate in encampment of 54th Iowa Inf., from July 18 to 27.

Morgan, Norman D., contract surgeon, relieved from duty at Presidio of San Francisco, June 30, and ordered to report to Chief Surgeon of that Department for annulment of contract.

Lowe, Thomas S., M. R. C., ordered from Presidio of Monterey, Cal., to Atascadero, Cal., for temporary duty, relieving Contract Surgeon James W. Brownlie, Jr., who is directed to report to Chief Surgeon of Department on June 30, for annulment of contract.

Johnson, Thomas H., M. R. C., ordered from Fort Baker to Fort Mason, Cal., for temporary duty as post surgeon and attending surgeon Headquarters Department of California, during illness of Captain Perry L. Boyer, Medical Corps, or until latter is relieved.

Hill, Eben C., 1st lieut., sick leave of absence further extended 1 month.

Carr, William B., 1st lieut., detailed member of examining board at Fort Monroe, Va., vice Captain George P. Peed, M. C., relieved.

Sharpe, Herbert H., M. R. C., assigned to permanent duty at Fort Niagara.

Bartlett, Cosam J., capt., ordered to Fort Banks, Mass., as member of examining board to meet July 12, 1910.

Crum, Wayne H., M. R. C., ordered to Fort Ontario, N. Y., as member of examining board to meet July 12, 1910.

Patterson, Robert F., dental surgeon, ordered from San Francisco to Fort Sheridan, Ill., for duty.

Johnson, Howard H., capt., granted 2 months' leave of absence, to take effect on or about July 20, 1910.

Myers, William H., M. R. C., ordered to Fort Screven, Ga., for duty, relieving First Lieutenant Fred T. Koyle, M. R. C., who is ordered to Fort Mansfield, R. I., for duty, on expiration of leave.

Sanford, Joseph L., M. R. C., granted leave of absence for 4 days to take effect on or about July 5, 1910.

Oliver, Robert T., examining and supervising dental surgeon, granted 2 months' leave of absence, to take effect on or about July 1, 1910.

Siler, Joseph F., capt., ordered from New York City to Peoria, Ill., to study pellagra in connection with commission organized by the governor of Illinois.

Blanchard, R. M., capt., reported for duty at Camp J. M. Dickinson, Chicago.

Person, Elbert E., major, reported for duty at Camp of Instruction, Gettysburg, Pa.

Woodall, William P., capt., reported for duty to temporary command of one-half of Co. A, Hospital Corps, at Target and Maneuver Camps at Fort D. A. Russell, Wyo.

Oliver, Robert T. E. S., D. S., order to proceed to Camp of Instruction at Gettysburg, Pa., is revoked.

Hallett, Harley J., M. R. C., relieved from temporary duty at Fort Hamilton, N. Y., and ordered to return to Fort Totten, N. Y.

Hartnett, E. H., major, ordered to Fort Monroe, Va., for temporary duty.

Talbott, E. M., capt., and Haverkampf, C. W., lieut., report arrival at Camp J. M. Dickinson, Chicago, for duty.

Donmer, C. C., lieut., left Fort Thomas, Ky., for duty at Camp of Instruction, Gettysburg, Pa.

Johnson, Thomas H., M. R. C., reported for temporary duty at Fort Mason, Cal., and as attending surgeon, Department Headquarters.

Beery, Harry R., lieut., reported for duty at Camp J. M. Dickinson, Chicago.

Williams, H. R., M. R. C., reported for duty at Camp J. M. Dickinson, Chicago.

Owen, L. J., capt., left Fort Benjamin Harrison, Ind., en route to Camp J. M. Dickinson, Chicago.

Lynch, Edward C., M. R. C., left Omaha, en route to take station at Fort D. A. Russell, Wyo.

U. S. Public Health and Marine-Hospital Service

Changes for the week ended June 29, 1910:

Irwin, Fairfax, surgeon, leave of absence for 1 month and 10 days from Sept. 1, 1910, amended to read from September 15.

Banks, Charles P., surgeon, leave of absence granted for 12 days from June 12, 1910, amended to read 10 days from June 15, 1910.

Wasdin, Eugene, surgeon, granted 1 month's leave of absence from June 22, 1910, on account of sickness.

Brooks, S. D., surgeon, detailed to represent the Service at the meeting of the American Institute of Homeopathy to be held in Los Angeles, Cal., July 11-15, 1910.

Cobb, J. O., surgeon, granted 7 days' leave of absence from June 26, 1910.

Geddings, H. D., surgeon, detailed to attend the First International Congress of Administrative Sciences to be held at Brussels, Belgium, July 28-31, 1910.

Von Ezdorf, R. H., P. A. surgeon, granted 5 days' leave of absence from June 28, 1910, on account of sickness.

Lumsden, L. L., P. A. surgeon, reassigned for duty in the Hygienic Laboratory, effective June 27, 1910.

Holt, John M. F., P. A. surgeon, granted 7 days' leave of absence June 19, 1910, and 1 day's leave of absence June 26, 1910.

Lloyd, B. J., P. A. surgeon, granted 1 month's leave of absence from June 20, 1910, on account of sickness.

Bahrenburg, L. P. H., P. A. surgeon, granted 18 days' leave of absence from July 1, 1910.

Warren, B. S., P. A. surgeon, granted 2 months' leave of absence from July 5, 1910.

Stimson, A. M., P. A. surgeon, reassigned for duty in the Hygienic Laboratory, effective June 29, 1910.

Spratt, R. D., P. A. surgeon, granted 7 days' leave of absence from June 14, 1910, on account of sickness.

Herring, R. A., asst.-surgeon, granted 14 days' leave of absence from June 15, 1910.

Adams, X. F. B., acting asst.-surgeon, granted 4 days' leave of absence from June 30, 1910.

Duncan, W. A., acting asst.-surgeon, granted 28 days' leave of absence with pay, and 2 days' leave of absence without pay from May 5, 1910.

Fahey, B. W., acting asst.-surgeon, granted 7 days' leave of absence from June 24, 1910.

Parker, Thomas F., acting asst.-surgeon, granted 4 months' leave of absence without pay from July 1, 1910.

Stanton, J. C., acting asst.-surgeon, granted 4 days' leave of absence from June 27, 1910.

Weldon, William A., acting asst.-surgeon, granted 30 days' leave of absence from July 5, 1910.

Wilson, J. G., acting asst.-surgeon, granted 7 days' leave of absence from June 22, 1910, under paragraph 210, Service Regulations.

Association News

NEW MEMBERS

The following is a list of new members of the American Medical Association for the month of June, 1910. Stars and daggers are placed before those who became members at the St. Louis Session; the dagger indicates that the name so marked was previously on the subscription list.

ALABAMA

*Blake, W. H., Sheffield.
*Copeland, M. A., Birmingham.
†Goode, Rhett, Mobile.
Peterson, E. A., Mobile.
†Stubbins, S. G., Birmingham.

ARKANSAS

*Biles, Lee E., Augusta.
*Bourland, O. M., Vanburen.
Davis, E. N., Little Rock.
Harrison, F. E., Fordyce.
*Lightfoot, J. A., Texarkana.
*Neece, Thos. C., Walnut Ridge.
†Powell, J. T., Maysville.
Purifoy, L. L., El Dorado.
*Reeves, W. R., Alma.
Redman, T. C., Cushman.
*Watson, E. L., Newport.
Webb, Abner, Ft. Smith.

CALIFORNIA

Bunnell, Sterling, San Francisco.
Bruman, A. K., San Francisco.
O'Neill, B. J., San Diego.
†Sellery, A. C., Long Beach.

COLORADO

Davis, J. H., Denver.
†Elliott, R. W., Ft. Morgan.
*Neuman, D. S., Denver.

CONNECTICUT

†Hepburn, T. N., Hartford.

FLORIDA

Thompson, J. M., Ocala.

GEORGIA

Adair, Robin, Atlanta.
Bradley, T. E., Cordele.
Dennard, J. H., East Point.
Moore, J. M., Macon.
Murray, G. S., Columbus.
Roberts, C. W., Douglas.
Stuckey, E. O., Atlanta.

ILLINOIS

*Adams, J. W., Carrollton.
†Allyn, W. J., Waverly.
†Altman, Maurice, Springfield.
*Beard, I. J., Godfrey.
*Berrey, I. S., Batchtown.
†Bradley, R. C., Peoria.
Brown, L. S., Hillsboro.
Brvant, J. B., Lawrenceville.
Burke, C. O., Atlanta.
*Cannady, E. W., E. St. Louis.
*Carter, Wm. J., Mattoon.
*Casebarn, A. L., Ferris.
Casey, L. R., Marion.
*Chapin, H. A., White Hall.
†Cook, E. A., Upper Alton.
*Crain, B. F., Carterville.
Culbertson, D., Littleton.
*Davidson, W. E., Kingston.
†Doane, J. F., Peoria.
†Du Four, W. G., Chenoa.
†Dentje, Robt., Buffalo.
*Eeckhardt, W., Belevan.
Garrison, A. J., Buckley.
*Glascock, E. N., Mill Shoals.
Gore, C. P., Lawrenceville.
†Greer, D. W., Jonesboro.
Green, W. I., Sumner.
Harrigan, C. P., Chicago.
†Hick, J. C., Elderado.
*Hilliard, T. J., Fairfield.
*Johnson, C. W., Litchfield.
Jones, Wm., Aurora.
*King, S. H., Granite.
*King, T. A., Victoria.
†Knappenberger, T. G., Chicago.
*Lamb, J. G., Fisher.
†Lane, E. H., E. St. Louis.
*LeSantuer, H. L., Red Bud.
*Lescher, E. R., Mt. Carmel.
Lockwood, F. K., Virden.
*Long, J. H., E. Moline.
*McKee, J. F., Johnston City.
*McMurray, R. J., St. Francisville.
*McNemer, G. H., Cairo.
Meirink, B. J., Germantown.
Niess, John, Jr., Carmi.
*Nobles, C. D., Buncombe.
†Nyberg, R. B., Harrisburg.
*Paul, E. W., Forest City.
*Perry, W. H., Carterville.
*Pope, R. D., DuQuain.
Rayhill, C. G., Belleville.
*Riffey, J. H., Girard.
Roberts, R. B., Brimfield.
Rubovits, W. H., Chicago.
Russell, Rose A., Granite City.
*Sanders, C. J., Ashley.
*Sanders, K. D., Jonesboro.
*Scott, F. C., Adrian.
*Shawl, J. L., Onarga.
*Siegel, J. H., Collinsville.
Stacy, G. H., Jacksonville.
Steffenson, O. M., Chicago.
Stiehl, E. P., Floraville.
*Stewart, J. H., Jr., Exeter.
*Summers, Edmund, Mattoon.
†Tharp, Royal, Benton.
Thomas, J. Smith, Pleasant Hill.
†Tobin, J. R., Elgin.
†Treadway, W. Y., Jacksonville.
†Treadwood, R. R., Lawrenceville.
†Turner, A. F., Taylorville.
†Van Hook, H. M., Mt. Pulaski.
*Wattleworth, J. R., Yale.
Wickstrom, Emma M., Chicago.
†Wilhlemj, Walter, E. St. Louis.
*Wilkins, D. R., Pocahontas.
Wilson, G. K., Streator.
*Wolfe, H. M., Taylorville.
*Wright, L. D., Rochester.

INDIANA

*Arthur, S. I., Patoka.
Barnes, I. C., Indianapolis.
†Buck, G. M., Burrows.
*Carson, S. L., Lincoln City.
†Chappell, R. S., Indianapolis.
*Gibson, J. P., Stewartsville.
†Haskell, C. C., Indianapolis.
*Haywood, C. C., Elkhart.
†Hill, L. B., Seymour.
†Jerome, J. N., Evansville.
*Lukemeyer, E. G., Huntingburg
†Maxedon, T. H., Vincennes.
McVoran, Jr., Vincennes.
*McGowan, T. J., Vincennes.
*Olmsted, R. T., Milan.
*Rothrock, M. W., Howell.
Somes, J. F., Vincennes.
*Thurston, H. S., Indianapolis.
Townsend, R. C., Osgood.

IOWA

*Chesire, Marshalltown.
†Dierker, F. H., West Point.
*Downing, W. L., Menlo.
*Jordan, J. C., Des Moines.
Leavitt, F. J., Gilmore City.
†Lomas, W. A., Villisca.
*McClure, E. C., Massey.
*Mott, W. H., Farmington.
†Posner, E. R., Des Moines.
Sanders, W. E., Alta.
*Tourtellotte, M., Marshalltown.
†Williams, B. G., Oskaloosa.
†Zook, A. J., Adair.

KANSAS

Brady, C. F., Parsons.
†Ford, K. B., Wichita.
*Forney, D. B., Wichita.
†Gooch, W. S., Mapleton.
†Green, D. E., Pleasanton.
*Greene, Marie A., Kansas City.
Harker, H. J., Jordan.
Hobson, A. D., White Cloud.
*Jewink, J., Prairie View.
Knox, W. E., Norcatur.
Kress, C. A., Pleasanton.
*Lambeth, G. B., Moran.
Matassarin, Leon, Lawrence.
Smith, G. S., Liberal.
†Smith, I. L., Meriden.
†Sutton, W. S., Kansas City.
Walker, A. E., Anthony.
*Wilhoit, J. C., Manhattan.
†Williams, F. S., Wichita.
Zergan, G. F., Holyrood.

KENTUCKY

†Amerson, S. S., Sullivan.
†Blakey, T. W., Hopkinsville.
†Boggess, W. F., Lowndes.
†Boyd, Frank, Paducah.
*Covington, E. D., Hardin.
*Dixon, J. T., Providence.
Flowers, M. B., Albany.
*Gourley, W. W., Fulton.
†Hughes, H. I., Hardin.
*Hunt, Chas., Clinton.
*Lamkin, T. L., Paducah.
Lewis, J. W., Oakland.
Lowery, O. T., Tolu.
†Mason, Will, Jr., Murray.
Moore, J. M., Tolu.
Moore, P. A., Jordan.
*Patterson, John, Frankfort.
*Poole, W. A., Henderson.

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Taylor, J. W., Hartford.
†Travis, F. M., Gilbertsville.

LOUISIANA

Dimitry, T. J., New Orleans.
Jarrell, C. M., Crowville.
Ney, K. W., Madisonville.
Perkins, R. T., New Orleans.

MARYLAND

Casles, D. B., Baltimore.
†Pechtman, F. W., Cumberland.
Knapp, H. C., Baltimore.

MASSACHUSETTS

Bixby, O. E., Sangus.
Bush, A. D., Newtonville.
Gafney, H. D., Ware.
Piper, F. S., Lexington.
†Sargent, O. F. L., Lawrence.
Stowell, E. C., Boston.
Watkins, R. P., Worcester.
Wentworth, M. H., Boston.
West, F. O., Boston.

MICHIGAN

Abelmann, T. C. H., Grand Rapids.
Budde, A. E., Norway.
Bunshaw, A. H., Detroit.
Cushman, M. L., Lansing.
Donker, A. E., Forest Grove.
Groff, C. F., Detroit.
Hackney, E. L., Lupton.
†MacKenzie, R. G., Ann Arbor.
McLandress, J. A., St. Charles.
Mercer, C. D., Addison.
Rigterink, J. W., Freeport.
Sample, T., Saginaw.
Sanderson, H. A., Detroit.
Stevens, R. H., Detroit.
Treat, David, Adrian.

MINNESOTA

Bigelow, C. E., Madison Lake.
*Kirmse, A. W., Frazee.
*Lewis, C. B., St. Cloud.
*Munger, L. H., Winona.
†Smith, F. L., Chatfield.
*Verne, V. J., Moorhead.
*Whitstone, Mary S., Minneapolis.

MISSISSIPPI

Cooper, I. W., Newton.
*Leathers, W. S., University.
Hand, A. P., Shubuta.
Sharp, W. E., Pascagoula.

MISSOURI

†Alderman, M. C., Sedalia.
*Allee, W. L., Eldon.
*Allen, F. C., Callao.
Altham, A. G., Metz.
†Amyx, R. F., St. Louis.
*Andrews, J. P., Marionville.
†Armstrong, J. H., St. Louis.
Bankhead, J. E., Clarksville.
†Barber, M. B., Flat River.
*Barnes, I. C., St. Louis.
†Barnett, M. C., St. Louis.
†Barr, C. M., St. Louis.
Bartels, L. G., St. Louis.
Bartlett, E. M., Clarksville.
*Bassett, W. H., St. Louis.
Beeson, J. P., Southwest City.
Blue, A. B., Hannibal.
†Bohan, P. T., Kansas City.
†Bohling, O., Sedalia.
Bonham, V. Q., Fayette.
*Bracy, Rolla, Wellston.
*Bradley, J. M., St. Louis.
*Bradley, J. P., Windsor.
†Breuer, R. E., Newburg.
*Bridges, J. R., Kahoka.
*Brooks, F. C., St. Louis.
*Brown, C., Fair Play.
*Bruton, J. W., Ozark.
*Bryan, E. M., Fulton.
*Burke, J. P., California.
†Caplan, S., St. Louis.
*Claiborn, E. G., Decaturville.
†Corley, H. N., St. Paul.
†Curtis, A. N., St. Louis.
†Damount, F., Balckow.
*Damron, O. H., Silex.
Daniel, J. R., Clarence.
Davis, J. D., Louisiana.
*Davis, J. O., East Prairie.
*Dawson, J. W., El Dorado Springs.
*Dreschler, Louis, St. Louis.
†Dixon, C. H., Holliday.
Donnell, J. F., Crystal City.
Dummit, Manford, Pierce City.
Dyer, J. H., Warrenton.
†Dyer, D. O. P., Scotia.
*Edgell, O. K., Eolia.
*Elkins, C. B., Springfield.
Ellis, F. R., Garden City.
Enloe, I. N., Jefferson City.
*Fairchild, S. F., St. Louis.
*Fewel, R. B., Montrose.
†Fleming, C. R., Farmington.
†Foreman, C. O., Warrenton.
†Foreman, J. M., Jonesburg.
†Foster, J. P., LaCrosse.
*Forsyth, R. C., Kirkwood.
*Fulbright, J. H., Springfield.
*Fulton, A. L., St. Louis.
Glahn, C. P., Palmyra.
†Grace, H. M., Chillicothe.
Gray, Isabel S., St. Louis.
Greenlee, A. R., Kansas City.
Grimes, W. P., Kansas City.
*Grote, W. F. H., St. Louis.
Gunn, W. G., Florence.
†Guss, W. C., Hannibal.
Guthrie, C. C., St. Louis.
*Hampton, J. R., Clinton.
†Handley, W. E., St. Louis.
†Harmann, M. F., St. Louis.
†Harrell, H. J., St. Louis.
*Harris, H. W., Winchester.
*Hartley, L. D., Nebo.
Harwood, W. S., Rensselaer.
*Hauck, E. F., St. Louis.
*Hauck, Louis, St. Louis.
Hays, W. H., Hannibal.
†Hendrix, M. B., Carrithersville.
†Herrick, H. C., St. Louis.
Hertel, G. E., St. Louis.
Hickerson, E. R., Moberly.
†Hickerson, J. T., Centralia.
*Hodges, D. M., East Prairie.
*Hogue, J. A., Jr., Holcomb.
*Hooss, Albert, St. Louis.
*Hopkins, W. P., Bolivar.
Horwitz, A. E., St. Louis.
*Howard, F. A., Slater.
Howell, J. S., Hannibal.
†Jackson, T. J., St. Charles.
†Jacobson, Jacob, St. Louis.
*James, E. F., Springfield.
Jameston, C. H., St. Louis.
*Jennings, F. J., Windsor.
Johnson, F. P., St. Louis.
*Jones, J. L., Jonesburg.
*Kirth, J. F., Sturgeon.
*Kenny, W. L., St. Joseph.
*Kerr, H. L., Sparta.
†Kutzeborn, E. E., St. Louis.
*Koontz, C. J., St. Louis.
*Lang, H. F., Evertson.
*Lebrecht, J. C., St. Louis.
Lee, E. J., Jr., St. Louis.
Leighton, W. E., St. Louis.
Leonard, H. S., Kansas City.
Lensley, M. E., Madison.
*Luman, F. E., Baring.
Lutman, H. N., Versailles.
†Macdonald, J. W., St. Louis.
Mackey, C. A., Hannibal.
*Mann, A. W., Oak Grove.
†Martin, T. A., St. Louis.
*McCall, W. K., Worcester.
†McCoy, G. C., St. Louis.
†McNutt, W. B. A., Monroe City.
†Meisenbach, A. E., St. Louis.
†Meyer, Adolph, St. Louis.
†Merz, Adolph, St. Louis.
*Miller, R. M., Bogard.
*Miller, T. C., Ash Grove.
Milner, W. H., Macon.
*Mitchell, A. W., Humansville.
Monroe, A. E., Sedalia.
†Moore, Chas., Advance.
*Moore, Sherwood, St. Louis.
†Morris, C. C., St. Louis.
Muns, G. E., Montgomery City.
*Myers, G. T., Macks Creek.
Nelson, H. S., Excelsior Spgs.
†Nickell, L. O., Clarence.
*Nifong, Wm., Fredericktown.
Noland, M. R., Holliday.
*Ogle, S. E., Eolia.
Osborn, J. F., St. Joseph.
Owens, R. J., Mill Spring.
*Paine, G. F., St. Louis.
Paxon, C. E., Hannibal.
*Peters, M. L., Cameron.
*Petty, W. S., Rutledge.
Pfeffer, P. A., St. Louis.
†Pingsten, C. F., St. Louis.
Pickard, M. W., Kansas City.
†Pohlmann, F. L., St. Louis.
*Poorman, H. A., Kansas City.
*Poston, H. P., Boonville.
†Potts, J. D., St. Louis.
Prichard, J. B., St. Louis.
Rafter, J. G., Huntsville.
*Reig, Hugo, St. Louis.
†Richardson, K. B., Kansas City.
*Risley, C. H., Cameron.
*Robinson, J. F., Nevada.
†Rowe, H. J., Willow Springs.
Rowland, W. P., Bevier.
Roy, F. K., Clarence.
*Rutledge, J. E., Pecnus.
†Ryland, C. T., Lexington.
*Safford, W. G., Tarklo.
†Sanders, F. L., Kansas City.
*Schmidt, R., Victoria.
†Schweninger, E., St. Louis.
†Scott, C. D., St. Louis.
Scott, J. M., St. Louis.
*Shattinger, Chas., St. Louis.
*Shaw, J. W., St. Louis.
†Sheets, M. E., St. Louis.
Shotwell, J. R., Curryville.
*Sieving, H. J. C., St. Louis.
*Slayden, J. L., Dexter.
Sloan, O. J., Neosho.
Smith, Avis E., St. Louis.
*Smith, J. K., Fredericktown.
*Spencer, H. N., St. Louis.
*Stewart, James, St. Louis.
†Stocking, L. C., St. Louis.
*Teel, S. M., Prairie Home.
†Temm, L. N., St. Louis.
*Tiller, J. A., Bloomfield.
Tinsley, G. N., Bowling Green.
†Titsworth, Guy, Sedalia.
*Todd, W. T., Thompson.
*Tapp, L., Piedmont.
Unsell, J. B., Louisiana.
Vaughn, H. C., Sheibina.
*Walters, C. E., Dexter.
*Ward, E. P., St. Louis.
†Weiss, R. S., St. Louis.
†Welch, W. A., Callao.
*Well, Wm., Versailles.
*Wheeler, W. S., Kansas City.
†Wilkes, B. A., St. Louis.
Williams, D. E., Pacific.
Williams, P. E., Tipton.
*Wrigut, L. S., Lowry City.
*Yount, W. E., Cape Girardeau.

MONTANA

Fuller, A. G., Iron Mountain.

NEBRASKA

Beghtol, J. V., Hastings.
†Hamel, R. R., Hastings.
Lee, D. R., Arcadia.
†Lynch, Albert, Fairbury.
Nye, F. H., Plainview.
*Powell, E. W., Omaha.

NEW HAMPSHIRE

Chirurg, Chas., Manchester.

NEW JERSEY

Barwis, Elmer, Trenton.
Campbell, C. M., Paterson.
Clay, Thos. A., Paterson.
†Danzis, Max, Newark.
Jennings, C. H., Merchantville.
DeMerritt, C. L., West Hoboken.
Forney, Jos., Milltown.
Lamy, A. W., Elizabeth.
Marks, E. G., Arlington.
Maxson, C. B., Jersey City.
Mendenhall, D. S., Bordentown.
Murray, W. H., Plainfield.
*Parsonnet, Victor, Newark.
Schmidt, W. H., Atlantic City.
Stoddard, R. L., Rochester.
Woolley, J. S., Plainfield.

NEW MEXICO

*Smith, Clyn, Clovis.

NEW YORK

Comstock, Elizabeth, New York City.
Cruttenden, H. L., Morris.
Duke, W. C., Fredonia.
Guile, H. C., New York City.
Lowenstein, M. M., Rochester.
†March, C. A., Buffalo.
McKee, O. S., Buffalo.
Satterlee, H. S., New York City.
Soresi, G. F., New York City.
*Stearns, M. J., Ogdensburg.

NORTH CAROLINA

Dodds, S. A., Salisbury.
Hyatt, F. C., Waynesville.
Merritt, J. H., Woodsdale.
Norris, Philip, Rutherfordton.
Pierce, S. L., Durham.

NORTH DAKOTA

Campbell, C. C., Ashley.
Joyce, M. T., Harvey.
Towler, H. H., Stanton.
Trainor, M. E., Stanley.

OHIO

Axline, C. Z., Fultonham.
Bange, Theodore, Cincinnati.
†Campbell, W. H., Cincinnati.
Connor, A. R., Cincinnati.
*Macleod, G. D., Cleveland.
†Manning, W. J., Cleveland.
†McKitrick, A. S., Kenton.
†Noble, S. M., Marys.
North, E. A., Cincinati.
Olmstead, D. S., Millersburg.
*Powcery, F. S., Chardon.
†Rockhill, C. M., Cincinnati.
*Rouse, W. L., Paintersville.
Silberman, Jacob, Cleveland.
Smith, A. B., Wellington.
*Stahl, S. S., Franklin.
†Tillotson, J. R., Delphos.
Townsend, F. W., Columbus.

OKLAHOMA

Beard, D. A., Westville.
*Bradshaw, J. T., Shawnee.
Caldwell, C. W., Chelsea.
†Clark, M. T., Temple.
*Conway, W. Q., Tulsa.
*Gaston, J. L., Kingston.
House, C. F., Hastings.
Howard, R. M., Oklahoma City.
*Howell, D. D., Nowata.
*Huffman, L. H., Hobart.
Keyes, Robert, Schoolton.
Noble, F. W., Guthrie.
Pendergraft, W. C., Hollis.
*Phelan, J. R., Oklahoma City.
Riley, J. T., El Reno.
Strother, S. P., Altus.
†Tilly, W. T., Muskogee.
*Wilson, A. A., Eufaula.
*Will, A. A., Oklahoma City.
†Wilson, S. W., Lindsay.

OREGON

Reitzel, M. E., Dayton.
Taylor, M. B., Grass Valley.

PENNSYLVANIA

Bennett, W. F., Scranton.
†Boyd, D. H., Pittsburg.
Campbell, E. E., Butler.
Craig, J. J., Columbia.
Downs, R. S., Jr., Philadelphia.
Elliott, C. H., Brownsville.
Fox, G. T., Bristol.
King, J. J., Freeland.
Lenker, R. W., West Leesport.
McFate, J. C., Meadville.
Mowery, S. S., Mechanicsburg.
Murray, M. A., Wilkes Barre.
Nathen, David, Norristown.
Pect, E. L., Scranton.
Thompson, R. J., Carbondale.
White, W. C., Pittsburg.

TENNESSEE

†Breeding, W. J., Ravenscroft.
*Chapman, S. T., Hails.
*Farmer, W. S., Cookville.
Frosthwait, G. W., Florence.
Dalton, B., Ridgdale.
*Dupree, M. W., Bethel.
*Hargis, W. A., Hermitage.
Harrell, E. B., Unicol.
Johnston, C. H., Lexington.
Jones, T., Jackson.
*Lewis, J. R., Ripley.
*Medling, W. L., Dyer.
*Nesbett, E., Southside.
*Porter, J. A., Rhiney.
Smith, H. G., Chattanooga.
*Steele, J. B., Chattanooga.
*Venters, J. M., Portland.

TEXAS

*Anderson, R. B., Sherman.
†Baird, R. W., Dallas.
Brannin, E. B., Dallas.
†Brown, G. F., Sherman.
*Casey, J. V., Whitesboro.
†Decherd, H. B., Dallas.
*Dodson, J. E., Jr., Vernon.
*Ferriss, J. H., Henrietta.
Hale, J. P., Miles.
Lindahl, F., San Antonio.
*Neel, J. M., Dallas.
†Sherwood, M. W., Temple.
*Smoot, J. B., Dallas.
†Sorrells, C. J., Cheyse City.
Terrell, S. L., Dallas.

UTAH

Campbell, Henry, Logan.
Robinson, H. E., American Fork.

VIRGINIA

Hughes, T. J., Roanoke.
Love, J. M., Norfolk.
*Whitmore, W. S., Mt. Sidney.
Willis, A. M., Richmond.

WASHINGTON

Booth, J. R., Seattle.
Hoffman, C. B., Kent.
Nevitt, O. R., Raymond.
Oppenheimer, S. S., Spokane.
White, E. W., Prosser.
*Woolley, W. T., Seattle.
Young, E. W., Seattle.

WEST VIRGINIA

Anderson, J. C., Mucklow.
Carter, J. F., Danville.
Fittre, E. B., Salem.
Flowers, E. S., Clarksburg.
Fortney, F. D., Newburg.
Jones, E. C., Exchange.
Owen, B. A., Huntington.
Rankin, B. S., Tunneiton.

WISCONSIN

*Aplin, F. W., Waukesha.
†Finney, W. H., Clintonville.
Gillen, F. C., Milwaukee.
†Jefferson, H. A., Clintonville.
†Jenner, A. G., Milwaukee.
Maes, C. G., Kimberly.
†Ravenel, M. P., Madison.
Rea, J. T., Waldo.
*Smedal, Greggar, LaCrosse.
*Tauscher, J. P., Milwaukee.
Wechos, F. J., Kewaunee.
Swickey, W. H., Superior.

CANAL ZONE

*Darling, S. T., Ancon.
Dutrow, H. V., Ancon.
*Earhart, T. W., Ancon.
*Phillips, C. E., Panama.

PHILIPPINE ISLANDS

Singian, Gregorio, Manila.

State Boards of Registration

COMING EXAMINATIONS

ALABAMA: Montgomery, July 12. Chairman, Dr. W. H. Sanders.

CONNECTICUT: Regular, City Hall, New Haven, July 12-13. Sec., Dr. Charles A. Tuttle; Homeopathic, New Haven, July 12. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, New Haven, July 12. Sec., Dr. T. S. Hodge, 19 Main Street, Torrington.

DISTRICT OF COLUMBIA: Washington, July 12-15. Sec., Dr. George C. Ober, 125 B Street, S. E.

INDIANA: Room 120, State House, Indianapolis, July 12-14. Sec., Dr. W. T. Gott.

MAINE: Augusta, July 19-20. Sec., Dr. F. W. Searle, Portland.

MASSACHUSETTS: State House, Boston, July 12-14. Sec., Dr. Edwin B. Harvey.

OKLAHOMA: Ione Hotel, Guthrie, July 12. Sec., Dr. Frank P. Davis, Enid.

SOUTH DAKOTA: Lead, July 13-14. Sec., Dr. F. W. Freyberg, Mitchell.

VERMONT: Burlington, July 12-14. Sec., Dr. W. Scott Nay, Underhill.

WEST VIRGINIA: Capitol Bldg., Charleston, July 11-13. Sec., Dr. H. A. Barbee, Point Pleasant.

WISCONSIN: Madison, July 12-15. Sec., Dr. John M. Beffel, 3200 Clybourn Street, Milwaukee.

Nebraska February Report

Dr. E. Arthur Carr, secretary of the Nebraska State Board of Health, reports the written examination held at Lincoln, Feb. 9, 1910. The number of subjects examined in was 13; total number of questions asked, 130; percentage required to pass, 75. Only one candidate, a graduate of Lincoln Medical College, 1906, was examined, and he passed with a grade of 86.8 per cent. Twenty candidates have been licensed through reciprocity since Jan. 1, 1910. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Denver Homeopathic College	(1906)	Colorado
Northwestern University Medical School	(2, 1908)	Illinois
College of Physicians and Surgeons, Chicago (1905) (1906)	(1907)	Illinois
Jenner Medical College	(1909)	Illinois
Rush Medical College	(1886)	Indiana
Bennett Medical College	(1908)	Missouri
Keokuk Medical College	(2, 1905)	Iowa
Keokuk Med. Coll., Coll. of Phys. and Surgs.	(1906)	Iowa
University of Michigan, College of Medicine	(1909)	Missouri
Tufts College Medical School	(1907)	Maine
Barnes University	(1903) (1906)	Missouri
St. Louis College of Physicians and Surgeons	(1899)	Missouri
Creighton Medical College	(1909)	Iowa
University of Vermont, College of Medicine	(1898)	Vermont
Royal University, Paria, Italy	(1890)	Kansas

Florida April Report

Dr. J. D. Fernandez, secretary of the Florida State Board of Medical Examiners, reports the written examination held at Jacksonville, April 2-5, 1910. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 38, of whom 32 passed and 6 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Alabama	(1909)	85.2
University of Arkansas	(1908)	83
Howard University	(1907)	93
Atlanta College of Physicians and Surgeons (1907) 75; (1908) 75; (1909) 75.		
Medical College of Georgia	(1892)	75
Rush Medical College	(1893)	80.8
Chicago Medical College	(1875)	75
College of P. & S., Indianapolis	(1883)	75
University of Iowa, College of Medicine	(1881)	76.8
University of Maryland	(1909)	85.2
Harvard Medical School	(1906)	92.2
Barnes Medical College	(1896)	75.6
Albany Medical College	(1892)	82
Columbia University, College of P. & S.	(1889)	79.5
North Carolina Medical College	(1908)	92.1
Miami Medical College	(1874)	75
University of Pennsylvania	(1895) 77.2; (1896)	75
Jefferson Medical College	(1902) 81.7; (1906)	91.2
Vanderbilt University	(1905)	86.5
University of the South	(1907)	78.7
University of Tennessee	(1909)	80.5
Memphis Hospital Medical College	(1908)	75
Medical College of the State of South Carolina (1881) 75; (1909) 82, 84.7.		
University of Vermont	(1892)	75
University of Munich, Germany	(1878)	85.5
University of Havanna, Cuba	(1908)	77.3

FAILED

Georgia College of Eclectic Medicine and Surgery	(1891)	47.7
Atlanta College of Physicians and Surgeons	(1909)	56.4
Medical College of Georgia	(1906)	64
Meharry Medical College	(1909)	67.7
Gate City Medical College	(1903)	60.8
University of Havana, Cuba	(1908)	77.3

The following questions were asked:

ANATOMY

1. What bones enter into the formation of the skull? 2. Name the bones of the hand. 3. Describe the diaphragm and name its openings. 4. Give the boundaries of scarpa's triangle and name its contents. 5. What nerves supply the tongue and give function of each? 6. Give origin, course and distribution of the left pneumogastric nerve. 7. Name the branches of the arch of the aorta. 8. Describe the pulmonary artery. What function does it perform? 9. Name the muscles of the abdomen. 10. Name the muscles of the orbit and give function of each.

PHYSIOLOGY

1. What is the difference between serous and synovial membranes? Name the serous membranes. 2. What is the difference between a secretion and an excretion? Name three of each. 3. Describe the process of breathing. How does the blood become oxygenated in the lungs? 4. Describe the mechanism of the production of the voice, and how is the pitch changed from one key to another? 5. Describe the vision. Why does the pupil dilate and contract? 6. Describe the general arrangement of the cerebrospinal axis and the functions of the white and gray matter. 7. What is the effect of the pneumogastric nerve on the heart? 8. What are the component parts of blood and the function of each part? 9. Describe the action and relative time of action of each of the valves of the heart. 10. How and where are carbohydrates converted, during digestion?

SURGERY

1. Give symptoms and treatment of shock. 2. What are the sources of wound infection? 3. What are the constitutional symptoms in severe burns, and what is the treatment? 4. Give treatment in case of large, irregular foreign body in the eyeball. 5. Give symptoms and treatment of chronic suppuration of the middle ear. 6. Give diagnosis between fracture of lower end of humerus and dislocation of forearm backward. 7. How would you reduce a subcoracoid dislocation? 8. Give symptoms and treatment of fracture at the base of the skull. 9. What is the most common site of fracture of the clavicle, and how would you treat it? 10. Give symptoms and treatment of cholelithiasis.

GYNECOLOGY

1. Give indications and contraindications for the use of the curette. 2. Under what conditions is hysterectomy for cancer of the uterus is not justifiable; how determined, and give treatment in inoperable cases. 3. Give symptoms, diagnosis and differential diagnosis for submucous fibromyoma. 4. Give causes, symptoms and treatment for various forms of dysmenorrhea. 5. Differential diagnosis of ascites from ovarian cyst. 6. Describe in detail operation for complete laceration of perineum, involving rectovaginal septum. 7. Describe operation for removal of intraligamentous myoma. 8. Give description as to treatment of abscess of the cul-de-sac of Douglas. 9. Give symptoms of pelvic hematocele? 10. Outline symptoms of torsion of pedicle of ovarian cyst.

MATERIA MEDICA—THERAPEUTICS

1. What is incompatibility in medicine, and what are the different kinds of incompatibles? Give an example of each. 2. Why should you prescribe the salts of the alkaloids instead of the alkaloids themselves? 3. Mention three drugs used in the treatment of intermittent fever. State how each controls this disease. 4. Give the theory of the alkaline treatment of rheumatism. 5. What remedies would you employ to correct anemic conditions, and how are they used? 6. Define an antiseptic agent. Mention two important intestinal antiseptics, the diseases in which they are indicated and explain how they are used. 7. How should ophthalmia neonatorum be prevented and how treated? 8. In what conditions may cathartics be useful in the treatment of diarrhea or dysentery? 9. Name some conditions in which the bromids are indicated and state your method of giving them in large doses. 10. The dose of medicine given by the mouth being 1 grain, what would be the equivalent dose for hypodermic use and what for administration by the rectum?

OBSTETRICS

1. What are the boundaries and dimensions of the outlet of the pelvis? 2. Name the presumptive and positive signs of pregnancy. 3. Give leading points in the diet and hygiene of pregnancy. 4. Define ovum, spermatozoon, embryo, fetus, abortion. 5. On what grounds is it proper to produce an abortion? 6. What should the obstetrician's bag contain? 7. Describe the formation of the placenta and give its function. 8. If called to give evidence in a court of justice, how would you determine whether rape had been committed? 9. What is the significance of albuminuria in pregnancy? Its treatment. 10. Describe the proper treatment of a shoulder presentation.

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CHEMISTRY

1. Define the terms, chemical affinity, valence, decomposition of compounds, the nascent state and basic substances. 2. Express in chemical equation the reaction resulting from the combination (in solution), of sodium carbonate and calcium chlorid. 3. Mention the properties of nitrogen. 4. What remedies are usually employed in treating an acute case of phosphorus poisoning? 5. How would you treat a case of bichlorid of mercury poisoning? 6. What are the local and constitutional symptoms of carbolic-acid poisoning? 7. Enumerate the domestic remedies used as antidotes in poisoning by caustic potash and caustic soda. 8. What is the general mode of obtaining alkaloids? 9. How do you determine the nature of a white precipitate thrown down by boiling a specimen of urine? 10. Describe the method of preparing Haine's test solution for sugar and how used.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

THE MEDICAL SECTS*

In the reconstruction just sketched no allusion has been made to medical sectarianism. We have considered the making of doctors and the increase of knowledge; allopathy, homeopathy, osteopathy, have cut no figure in the discussion. Is it essential that we should now conclude a treaty of peace, by which the reduced number of medical schools shall be so pro-rated as to recognize dissenters on an equitable basis?

The proposition raises at once the question as to whether in this era of scientific medicine, sectarian medicine is logically defensible; as to whether, while it exists, separate standards, fixed by conditions under which it can survive, are justifiable. Prior to the placing of medicine on a scientific basis sectarianism was, of course, inevitable. Every one started with some sort of preconceived notion, and from a logical point of view one preconception is as good as another. Allopathy was just as sectarian as homeopathy. Indeed, homeopathy was the inevitable retort to allopathy. If one man "believes" in dissimilars contrary suggestion is certain to provide another who will stake his life on similars; the champion of big doses will be confronted by the champion of little ones. But now that allopathy has surrendered to modern medicine, is not homeopathy borne on the same current into the same harbor?

The modern point of view may be restated as follows: Medicine is a discipline in which the effort is made to use knowledge procured in various ways in order to effect certain practical ends. With abstract general propositions it has nothing to do. It harbors no preconceptions as to diseases or their cure. Instead of starting with a finished and supposedly adequate dogma or principle it has progressively become less cock-sure and more modest. It distrusts general propositions, *a priori* explanations, grandiose and comforting generalizations. It needs theories only as convenient summaries in which a number of ascertained facts may be used tentatively to define a course of action. It makes no effort to use its discoveries to substantiate a principle formulated before the facts were even suspected. For it has learned from the previous history of human thought that men possessed of vague preconceived ideas are strongly disposed to force facts to fit, defend, or explain them. And this tendency both interferes with the free search for truth and limits the good which can be extracted from such truth as is in its despite attained.

Modern medicine has therefore as little sympathy for allopathy as for homeopathy. It simply denies outright the relevancy or value of either doctrine. It wants not dogma, but facts. It countenances no presupposition that is not common to it with all the natural sciences, with all logical thinking.

The sectarian, on the other hand, begins with his mind made up. He possesses in advance a general formula, which the particular instance is going to illustrate, verify, reaffirm, even though he may not know just how. One may be sure that facts so read will make good what is expected of them; that only that will be seen which will sustain its expected function; that every aspect noted will be dutifully loyal to the revelation in whose favor the observer is predisposed; the human mind is so constituted.

It is precisely the function of scientific method—in social life, politics, engineering, medicine—to get rid of such hindrances to clear thought and effective action. For it, comprehensive summaries are situate in the future, not in the past; we shall attain them, if at all, at the end of great travail; they are not lightly to be assumed prior to the beginning. Science believes slowly; in the absence of crucial demonstration its mien is humble, its hold is light. "One should not teach dogmas; on the contrary, every utterance must be put to the proof. One should not train disciples, but form observers; one must teach and work in the spirit of natural science."[1]

Scientific medicine therefore brushes aside all historic dogma. It gets down to details immediately. No man is asked in whose name he comes—whether that of Hahnemann, Rush, or of some more recent prophet. But all are required to undergo rigorous cross-examination. Whatsoever makes good is accepted, becomes in so far part, and organic part, of the permanent structure. To plead in advance a principle couched in pseudo-scientific language or of extra-scientific character is to violate scientific quality. There is no need, just as there is no logical justification, for the invocation of names or creeds, for the segregation from the larger body of established truth of any particular set of truths or supposed truths as especially precious. Such segregation may easily invest error with the sanctity of truth; it will certainly result in conferring disproportionate importance on the fact or procedure marked out as of pivotal significance. The tendency to build a system out of a few partially apprehended facts, deductive inference filling in the rest, has not indeed been limited to medicine, but it has nowhere else had more calamitous consequences.

The logical position of medical sectarians to-day is self-contradictory. They have practically accepted the curriculum as it has been worked out on the scientific bases. They teach pathology, bacteriology, clinical microscopy. They are thereby committed to the scientific method; for they aim to train the student to ascertain and interpret facts in the accepted scientific manner. He may even learn his sciences in the same laboratory as the non-sectarian. But scientific method cannot be limited to the first half of medical education. The same method, the same attitude of mind, must consistently permeate the entire process. The sectarian therefore in effect contradicts himself when, having pursued or having agreed to pursue the normal scientific curriculum with his students for two years, he at the beginning of the third year produces a novel principle and requires that henceforth the student effect a compromise between science and revelation.

Once granted the possibility of medical dogma, there can be no limit to the number of dissenting sects. As a matter of fact, only three or four are entitled to serious notice in an educational discussion. The chiropractics, the mechanotherapists, and several others are not medical sectarians, though exceedingly desirous of masquerading as such; they are unconscionable quacks, whose printed advertisements are tissues of exaggeration, pretense, and misrepresentation of the most unqualifiedly mercenary character. The public prosecutor and the grand jury are the proper agencies for dealing with them.

Sectarians, in the logical sense above discussed, are (1) the homeopathists, (2) the eclectics, (3) the physiomedicals, (4) the osteopaths. All of them accept in theory, at least, the same fundamental basis. They admit that anatomy, pathology, bacteriology, physiology, must form the foundation of a medical education, to use the words broadly so as to include all varieties of therapeutic procedure. They offer no alternative to pathology or physiology; there is, they concede, only one proper science of the structure of the human body, of the abnormal growths that afflict it. So far, they make no issue as against scientific medicine. Much is involved in agreement up to this point. The standards of admission to the medical school, the facilities which the schools must furnish in order effectively to teach the fundamental branches, are the same for all alike. A student of homeopathy or of osteopathy

* Extract from Chapter X of the Flexner report to the Carnegie Foundation for the Advancement of Teaching. A copy of the complete report may be obtained by sending 17 cents for postage to the Carnegie Foundation, 576 Fifth Ave., New York City.

1. Orth, Johannes: Berl. klin. Wchnschr., xliii, p. 818.

needs to be just as intelligent and mature as a student of scientific medicine; and he is no easier to teach; for during the first and second years, at least, he is supposed to be doing precisely the same things.

At the beginning of the clinical years, the sectarian interposes his special principle. But educationally, the conditions he needs thenceforth do not materially differ from those needed by consistently scientific medicine. Once more, whatever the arbitrary peculiarity of the treatment to be followed, the student cannot be trained to recognize clinical conditions, to distinguish between different clinical conditions, or to follow out a line of treatment, except in the ways previously described in dealing with scientific medicine. He must see patients and must follow their progress, so as to discover what results take place in consequence of the specific measures employed. A sectarian institution, being a school in which students are trained to do particular things, needs the same resources and facilities on the clinical side as a school of scientific medicine.

Sectarian institutions do not exist in Canada; in the United States there are 32 of them, of which 15 are homeopathic, 8 eclectic, 1 physiomedical, and 8 osteopathic. . . .

HOMEOPATHIC COLLEGES

None of the fifteen homeopathic schools[2] requires more than a high school education for entrance; only five[3] require so much. The remaining eleven got less—how much less depending on their geographic locations rather than on the school's own definition. . . .

On the laboratory side, though the homeopaths admit the soundness of the scientific position, they have taken no active part in its development. Nowhere in homeopathic institutions, with the exception of one or two departments at Boston University, is there any evidence of progressive scientific work. Even "drug proving" is rarely witnessed. The fundamental assumption of the sect is sacred; and scientific activity cannot proceed where any such interdict is responsible for the spirit of the institution. The homeopathic departments at Iowa and Michigan are in this respect only half-schools—clinical halves. For their students get their scientific instruction in pathology, anatomy, etc., in the only laboratories which the university devotes to those subjects, under men none of whom sympathize with homeopathy. Their disadvantage is increased by the fact that the instruction is adapted to students who have had one or two years of college work. The general argument in favor of higher standards is here reinforced by the consideration that the homeopathic students should certainly qualify themselves for the only grade of scientific instruction that the two universities offer.

Of complete homeopathic schools, Boston University, the New York Homeopathic College, and the Hahnemann of Philadelphia alone possess the equipment necessary for the effective routine teaching of the fundamental branches. None of them can employ full-time teachers to any considerable extent. But they possess fairly well-equipped laboratories in anatomy, pathology, bacteriology and physiology, a museum showing care and intelligence, and a decent library. Boston University deserves especial commendation for what it has accomplished with its small annual income. . . .

In respect to hospital facilities, the University of Michigan, Boston University, and the New York Homeopathic alone command an adequate supply of material, under proper control, though modern teaching methods are not thoroughly utilized even by them. The Iowa school controls a small, but inadequate, hospital. All the others are seriously handicapped by either lack of material or lack of control, and in most instances by both. . . .

The dispensary situation is rather worse. Iowa and Ann Arbor have little opportunity. Of the others, Boston University alone has a really model dispensary, comparing favorably in equipment, organization and conduct with the best institutions of the kind in the country. The New York Homeopathic, the Chicago Hahnemann, and the Philadelphia Hahnemann command material enough. The others lack material, equipment or care; in some instances they lack everything that a dispensary should possess.

Financially, the two state university departments and the New York homeopathic schools are the only homeopathic schools whose strength is greater than their fee income. All the others are dependent on tuition. Their outlook for higher entrance standards or improved teaching is, therefore, distinctly unpromising. . . .

In the year 1900 there were twenty-two homeopathic colleges in the United States; to-day there are fifteen; the total student enrolment has within the same period been cut almost in half, decreasing from 1909 to 1009[9]; the graduating classes have fallen from 413 to 246. As the country is still poorly supplied with homeopathic physicians, these figures are ominous; for the rise of legal standard must inevitably affect homeopathic practitioners. In the financial weakness of their schools, the further shrinkage of the student body will inhibit first the expansion, then the keeping up of the sect.

Logically, no other outcome is possible. The ebbing vitality of homeopathic schools is a striking demonstration of the incompatibility of science and dogma. One may begin with science and work through the entire medical curriculum consistently, exposing everything to the same sort of test; or one may begin with a dogmatic assertion and resolutely refuse to entertain anything at variance with it. But one cannot do both. One cannot simultaneously assert science and dogma; one cannot travel half the road under the former banner, in the hope of taking up the latter, too, at the middle of the march. Science, once embraced, will conquer the whole. Homeopathy has two options: one to withdraw into the isolation in which alone any peculiar tenet can maintain itself; the other to put that tenet into the melting-pot. Historically it undoubtedly played an important part in discrediting empirical allopathy. But laboratories of physiology and pharmacology are now doing that work far more effectively than homeopathy; and they are at the same time performing a constructive task for which homeopathy, as such, is unfitted. It will be clear, then, why, when outlining a system of schools for the training of physicians on scientific lines, no specific provision is made for homeopathy. For everything of proved value in homeopathy belongs of right to scientific medicine and is at this moment incorporate in it; nothing else has any footing at all, whether it be of allopathic or homeopathic lineage. "A new school of practitioners has arisen," says Dr. Osler, "which cares nothing for homeopathy and less for so-called allopathy. It seeks to study, rationally and scientifically, the action of drugs, old and new.

ECLECTIC COLLEGES

There are eight eclectic schools.[10] One of them—that in New York City—requires the regents' medical student certificate, i. e., a four-year high school education, for admission; the Cincinnati school must require an equal preliminary education of students expecting to practice in Ohio, others taking the matter into their own hands. Just how the instruction is thus accommodated to various levels is not clear. The remaining six schools have either nominal requirements or none at all.

None of the schools has anything remotely resembling the laboratory equipment which all claim in their catalogues. The Cincinnati institution possesses a new and attractive building, thus far meagerly fitted out; the New York school has a clean building with a chemical laboratory in which elementary chemistry can be and apparently is taught properly. It has little else; a small room for the microscopic subjects, but no adequate equipment for teaching them; a few thousand books,

2. Hahnemann (San Francisco), Hahnemann and Hering (Chicago), state universities of Iowa and Michigan, Southwestern Homeopathic (Louisville), Boston University, Detroit Homeopathic, Kansas City (Kansas) Hahnemann, New York Medical College for Women, New York Homeopathic, Pulte (Cincinnati), Cleveland Homeopathic, Hahnemann (Philadelphia), Atlantic Medical (Baltimore).

4. State universities of Iowa and Michigan, Detroit Homeopathic, and the two New York schools

9. Jour. Am. Inst. Homeopathy, 1909, No. 11, i, 537; THE JOURNAL A. M. A., Aug. 14, 1909, pp. 556, 557, gives figures somewhat lower: 889 instead of 1009; 209 instead of 246. The discrepancy does not alter our interpretation.

10. One each at Los Angeles, Kansas City (Kansas), St. Louis, Lincoln (Nebraska), Cincinnati, New York City, and two at Atlanta.

mostly old; a few models, a lantern, etc.—and this is the most satisfactorily equipped of all the eclectic institutions. . . .

So far as sectarian creeds go, there is, of course, no reason why these schools should be elaborately equipped for scientific instruction. They talk of laboratories, not because they appreciate their place or significance, but because it pays them to defer thus far to the spirit of the times. Culpable indeed they are, however, for their utter failure to make good what their own tenets prescribe. The eclectics are drug mad; yet, with the exception of the Cincinnati and New York schools, none of them can do justice to its own creed. For they are not equipped to teach the drugs or the drug therapy which constitutes their sole reason for existence.[11]

OSTEOPATHIC COLLEGES

The eight osteopathic schools[12] fairly reek with commercialism. Their catalogues are a mass of hysterical exaggeration, alike of the earning and of the curative power of osteopathy. It is impossible to say on which score the "science" most confidently appeals to the crude boys or disappointed men and women whom it successfully exploits. "In no case has a competent osteopath made a failure in his attempt to build up a paying practice. . . . His remuneration, counted in dollars, will be greatly in excess of what he could reasonably expect in most other lines of professional work."[13] "It is only fair to say that many of our graduates are earning as much in single months as they were formerly able to earn by a full year's work."[14] "The average osteopath has a better practice than ninety out of every hundred medical practitioners."[15] "A lucrative practice is assured to every conscientious and capable practitioner."[16] "The graduate who does not make as much as the total cost of his osteopathic education in his first year of practice is the exception."[17] Standards these concerns have none; the catalogues touch that point very tenderly. At the parent school at Kirksville an applicant will be accepted "if he pass examinations in English, arithmetic, history and geography;" but if he should fail to meet these lofty scholastic requirements, he may be admitted anyway. In Massachusetts—the most homogeneously educated state in the Union—the Cambridge school diplomatically posts that "a diploma may be accepted or an examination be required if deemed advisable by the directors"—the word "is" being conspicuous by its absence; the Pacific College, "chancing it," finds that "most make good."

Whatever his notions on the subject of treatment, the osteopath needs to be trained to recognize disease and to differentiate one disease from another quite as carefully as any other medical practitioner. Our account of the sect proceeds wholly from this point of view. Whether they use drugs or do not use them, whether some use them while others do not, does not affect this fundamental question. Whatever they do, they must know the body, in health and disease, before they can possibly know whether there is an occasion for osteopathic intervention, and if so, at what point, to what extent, etc. All physicians, summoned to see the sick, are confronted with precisely the same crisis: a body out of order. No matter to what remedial procedure they incline—medical, surgical, or manipulative—they must first ascertain what is the trouble. There is only one way to do that. The osteopaths admit it, when they teach physiology, pathology, chemistry, microscopy. Let it be stated, therefore, with all possible emphasis that no one of the eight osteopathic schools is in position to give such training as osteopathy itself demands. The entire course is only three years. In so simple and fundamental matter as anatomy—assuredly the corner-stone of a "science" that relies wholly on local manipulation—they are fatally defective. At Kirksville the accommodations are entirely unequal to the teaching of its huge student body. Hence the first year is devoted to text-book study of anatomy, part of the second year to dissection; at Kansas City they consider that the student dissects better if he has learned anatomy first; hence dissection comes in the latter half of the course, being completed just one-half year before graduation. The supply of material is also scant; the school had had one cadaver early in the fall and was looking ahead to a second the latter part of the winter. The Los Angeles college has a small room with five tables for a student body numbering 250; it solves the difficulty by giving separate squads two hours a week each. At Philadelphia the department of anatomy occupies an outhouse, whence the noisome odor of decaying cadavers permeates the premises. Other subjects fare even worse. A small chemical laboratory is occasionally seen—at Philadelphia it happens to be in a dark cellar. At Kirksville a fair-sized room is devoted to pathology and bacteriology; the huge classes are divided into bands of 32, each of which gets a six weeks' course, following the directions of a rigid syllabus under a teacher who is himself a student. At Cambridge pathology comes in the last year. A professor in the Kansas City school said of his own institution that it had practically no laboratory at all; the Still College at Des Moines has, in place of laboratories, laboratory signs; the Littlejohn at Chicago, whose catalogue avers that the "physician should be imbued with a knowledge of the healing art in its widest fields, and here is the opportunity,"[18] has lately in rebuilding wrecked all its laboratories but that of chemistry without in the least interfering with its usual pedagogic routine." . . .

The mercenary character of osteopathic instruction is nowhere more conspicuously displayed than in the dispensaries, designed in theory to turn a humanitarian impulse to educational account. The osteopathic schools insert a cash nexus: the patients almost always pay. At Kansas City students give treatment to patients who pay three dollars a month; those paying more are treated by the professors. At Kirksville two dollars a treatment is charged. The cases are mostly chronics, an instructor being present at the first treatment; afterward, only if summoned. At Los Angeles the cheapest obtainable treatment is three dollars for "examination" and one month's treatment before the class; at Des Moines the "professor administers to high-priced patients, the students to others."

The eight osteopathic schools now enroll over 1300 students, who pay some $200,000 annually in fees. The instruction furnished for this sum is inexpensive and worthless. Not a single full-time teacher is found in any of them. The fees find their way directly into the pockets of the school owners, or into school buildings and infirmaries that are equally their property. No effort is anywhere made to utilize prosperity as a means of defining an entrance standard or developing the "science."[19] Granting all that its champions claim, osteopathy is still in its incipiency. If sincere, its votaries would be engaged in critically building it up. They are doing nothing of the kind. Indeed, in none of the sectarian schools does one observe progressive effort even along the lines of its own creed. And very naturally: dogma is sufficient unto itself. It may not search its own assumptions; it does well to adopt from the outside, after forced restatement in its own terms.[20]

In dealing with the medical sectary, society can employ no special device. Certain profound characteristics in one way or another support the medical dissenter: now, the primitive belief in magic crops up in his credulous respect for an impotent drug; again, all other procedure having failed, what is there to lose by flinging one's self on the mercy of chance? Instincts so profound cannot be abolished by statute. But the limits within which they can play may be so regulated as to forbid alike their commercial and their crudely ignorant exploitation. The law may require that all practitioners of the healing art comply with a rigidly enforced pre-

11. The physiomedical sect can be dismissed in a note. It had three schools in 1907; only one, that in Chicago, is left. There were 149 physiomedical students in 1904; there are now 52; there were 20 graduates in that year, 15 in 1909.

12. One school is found in each of the following cities: Chicago, Des Moines, Kirksville (Missouri), Kansas City (Missouri), Philadelphia, Cambridge (Massachusetts), and two at Los Angeles.

13. Catalogue, Pacific College of Osteopathy, 1909-10, p. 9.

14. Catalogue, Los Angeles College of Osteopathy, 1909-10, p. 9.

15. Catalogue, Central College of Osteopathy, 1908-9, p. 22.

16. Catalogue, Philadelphia College of Osteopathy, 1909-10, p. 48.

17. Catalogue, Massachusetts College of Osteopathy, 1909-10, p. 10.

18. Bulletin, June 15, 1909, p. 7.

19. This school teaches medicine as well as osteopathy. It offers instruction in materia medica and therapeutics, practice of medicine—and yet it is a three-year school.

20. At the Pacific College of Osteopathy alone were two workers doing some research.

21. In this fashion homeopathy handles sero-therapy as a case of similars.

liminary educational standard; that every school possess the requisite facilities; that every licensed physician demonstrate a practical knowledge of the body and its affections. To these terms no reasonable person can object; the good sense of society can enforce them on reasonable and unreasonable alike. From medical sects that can live on these conditions, the public will suffer little more harm than it is destined to suffer anyhow from the necessary incompleteness of human knowledge and the necessary defects of human skill.

Miscellany

Feeding Undiluted Citrated Milk.—Eighty consecutive cases of wasting infants fed on undiluted citrated milk are reported by Dr. Frederick Langmead (*Proc. Roy. Soc. Med.*, May, 1910). The method of adding sodium citrate to cow's milk was first advocated by Sir Almroth Wright, based on the influence which calcium salts have been proved to exert on coagulability *in vitro*, the softness and fineness of the curd varying directly with the amount of the sodium citrate used. The method was first used with diluted milk, but investigation showing the disadvantages of dilution, Langmead employed the process without dilution of the milk in cases in which artificial feeding was unavoidable. The babies in most instances being to a greater or less extent subnormal or in various stages of malnutrition or maldevelopment, the table of Holt as to quantity and intervals of feeding, at first followed, was found not to answer well and Langmead found it important to start well below the theoretically adequate amount and to feel his way from week to week. Having decided on the amount and frequency of the feedings, to each ounce of milk ordered, 2 gr. of sodium citrate were added in the form of a watery solution of such strength that 1 dram was added to each feeding. The mother was then instructed to bring the milk to the boil and then to add the solution. This served to sterilize the milk, and it has been found that the clot of citrated milk thus brought to the boil is finer than that which has been pasteurized or merely warmed. Langmead's experience with the citrated undiluted milk in the first two weeks of life is very small, and although it was serviceable in some cases he would not be disposed to employ it, as before the age of two weeks the stomach has been only slowly developing and acquiring tolerance for coagulated casein. Citration is gradually lessened at about five months and can usually be omitted at about six months. One of the chief advantages of the method is its simplicity, much manipulation with its attendant risks and mistakes being avoided. It applies most forcibly to the hospital class of patients, for whom it is also suitable on account of its cheapness. The disadvantages of dilution, the bulkiness of the feed, the complexity of the monthly variations, the dangers of artificially preserved or thickened cream, or of giving food containing too little fat, are all evaded. There is no danger of scurvy. Langmead has been struck by the firmness of the muscles of babies fed by this method, as contrasted with others—a better guide to the state of the nutrition than is the weight.

Preventing Blindness in New York.—The first annual report of the committee on the prevention of blindness of the New York Association for the Blind shows that its work since its organization in 1908 has been largely educational. Thousands of pamphlets, intended for the lay public on the prevention of blindness in infants, were distributed, not only in New York, but in other states on request. They have been circulated largely among members of the medical profession, health officers, graduate nurses, social service workers, at national and state conventions, and the articles have been printed in public magazines and the daily press. During the year a lecture tour was made and public addresses with lantern-slide exhibitions were given in many of the larger towns of the state, and in other states. A loan exhibit of photographs of children blind from ophthalmia neonatorum was circulated throughout the state. Among the recommendations of the committee for legislation, which are also those of the committee of the American Medical Association, was one for the distribution by boards of health of the prophylactic for ophthalmia neonatorum, a 1 per cent. solution of silver nitrate in colored glass tubes or ampoules, and one for earlier notification of births, that is, within thirty-six hours. The committee for the present year desires the cooperation of the various states doing the same line of work. The Russell Sage Foundation donated the sum of $5,000 to further the experimental work in the prevention of blindness, and this grant has been renewed for the present year. The late Richard Watson Gilder was president of the association and the late Samuel L. Clemens was a member.

Sanitation in Cuba.—An interesting article in the current issue of the official bulletin of the Cuban Department of Sanitation and Charities (*Sanidad y Beneficencia*, January-February, 1910) is an illustrated one showing the technic of fumigation of houses and other buildings to rid them of yellow fever and malarial mosquitoes. The method now adopted is that used in Mexico. The buildings to be fumigated are covered with large canvases, lashed and battened down, and cracks and crannies sealed with paper pasted over them until the whole building is hermetically sealed. The fumigation is then accomplished by burning sulphur and pyrethrum. Several factories and even whole blocks are prepared for fumigation at the same time, and with a sufficient force of laborers this is done in a few hours, so that the occupants of a house, hotel, factory or other business place are deprived of the use of their premises for only a few hours. Before using this method it sometimes took several days to fumigate premises. Mosquito inspections are kept up all over the island and the figures for 1909 show that over a million and a half of inspections were made. There were no cases of yellow fever during 1909, but twenty deaths occurred from *ictero grave*, and it is explained that twelve of these patients were not declared to be yellow fever immunes. A report with table on malaria in the island shows 723 deaths from that cause in 1909 as against 4,107 in 1900, together with a detailed report of vaccinations, which shows that smallpox has fallen from first to eighth place as a cause of mortality in the island and that there was only one case in the latter half of 1909, and that was imported. Tables on vital statistics covering the whole island analyze in an interesting manner diseases, deaths and marriages by ages, nationalities, occupations, etc., and show the number of legitimate and illegitimate births, and the work of sanitation and sanitary engineering performed. There are also in the bulletin a number of papers on subjects of scientific and general interest, the whole showing that the department is up to date and doing good work in public health and sanitary matters.

Hygienic Measures in Public Offices.—In the offices of the public printer in Washington general hygienic measures and precautions are employed which might be profitably followed in all large offices. By special arrangement with the health officers of the city, employees in whose families contagious diseases exist are reported to the office, and such employees are quarantined or asked to move temporarily from their residences, or placed on their honor not to nurse or enter the apartments of the sick. Tuberculous employees are urged to take sanitarium treatment, and leave of absence is obtained for them. Cuspidors are sterilized with live steam for each eight-hour shift. Water-closet seats and floors of the offices are scrubbed with soft soap, hot water and mercuric chlorid solutions and the latter allowed to dry on the floor. All telephone mouthpieces are wiped out daily with a solution of thymol and oil of eucalyptus in olive oil. Garbage cans are collected, emptied and sterilized with live steam daily. Drinking-cups are collected and sterilized several times daily. The floors are swept after sprinkling with sawdust saturated with thin spindle-oil and mixed with common salt. When employees are found to have genitourinary diseases they are dismissed from the service. Towels in the lavatories are changed three times a day. Employees injured or becoming ill while on duty are treated in the emergency room, and may call in their own physicians if desired. A card system of all patients treated is kept.

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Case of Holoacardius Acephalus.—A case of holoacardius acephalus has been reported by Harry Jackson (*Tr. Chicago Path. Soc.*, April 1, 1910). The case occurred in the practice of Dr. A. E. Budde, Norway, Mich. The mother was 19 years of age and the pregnancy a second one of nine months' duration. The diagnosis had been pregnancy with tumor. A normal, viable, 3½ pound male child was delivered, followed by the supposed tumor, which showed a body and two legs, the head and arms being absent. The legs were of uneven length. There were no toes. Two cm. from the anterior extremity of the body was a hernial sac at the site of the umbilicus which contained cells of small intestine, and to the sac the cord was attached. Two cm. from the posterior extremity on the ventral surface was a small penis-like structure. There was no anal opening. The radiograph showed a fairly well-developed skeleton. There were eight ribs on each side of the vertebral column of 14 vertebra. The scapulæ were present but there were no clavicles or bones of the arms or skull. Having no heart, the specimen was dependent on the heart of a twin fetus for its circulation. The two fetuses had their origin in a single ovum as is evidenced by the single placenta and single chorion.

Book Notices

MODERN MEDICINE. Its Theory and Practice in Original Contributions by American and Foreign Authors. Edited by William Osler, M.D., Regius Professor of Medicine in Oxford University, assisted by Thomas McCrae, M.D., Associate Professor of Medicine and Clinical Therapeutics in the Johns Hopkins University, Baltimore. Vol. VII, Diseases of the Nervous System. Cloth. Price, $6 net. Pp. 969, with illustrations. Philadelphia: Lea & Febiger, 1910.

This is the last volume of this work. It has taken about three years to complete the publication, and in view of the magnitude of the undertaking, it hardly seems possible that the seven splendid volumes could have been issued in a shorter time. The authors of the present volume are: L. F. Barker ("Introduction to Diseases of the Nervous System"); E. Bramwell ("Sclerosis of the Brain and Diseases of the Meninges"); Charles W. Burr ("Neurasthenia; the Traumatic Neuroses and Psychoses"); E. F. Buzzard ("Diffuse and Focal Diseases of the Spinal Cord"); Joseph Collins ("Topical Diagnosis of Disease of the Brain, Aphasia"); Harvey Cushing ("Tumors of the Brain and Meninges; Hydrocephalus"); Gordon M. Holmes ("Diseases of the Peripheral Nerves"); Smith Ely Jelliffe ("Migraine, Neuralgia, Professional Spasms, Occupation Neuroses, Tetany"); D. J. McCarthy ("Paralysis Agitans, Chorea, Choreiform Affections, Infantile Convulsions"); Colin K. Russell ("Combined Diseases of the Spinal Cord"); B. Sachs ("Amaurotic Family Idiocy"); E. C. Southard ("Acute Encephalitis and Brain Abscess"); W. G. Spiller ("Diseases of Motor Tracts"); W. P. Spratling ("Epilepsy"); E. W. Taylor ("Diseases of the Cerebral Nerves"); H. M. Thomas ("Diseases of the Cerebral Blood-Vessels"). It would be out of the question to review critically the monographic articles of all these contributors; it must suffice to point out again, as has been done in the case of the preceding volumes, that each contributor is qualified by special study to write on the subject or subjects assigned to him. That the contributors in general are leading men is apparent to any one at all familiar with the present state of the general literature on diseases of the nervous system so far as this country, Canada and Great Britain are concerned. We note that the consideration of mental diseases has been omitted. There are 37 plates, many of them of great value, as well as a number—not very large—of figures in the text. The present volume in every way measures fully up to the high standards of the previous volumes. In addition to the volume index there is an index to the whole work; this general index covers more than 50 pages and seems to be a comprehensive one. There is no authors' index.

Viewed as a whole, "Modern Medicine" is a production of great merit and usefulness. The various parts are well balanced; the editors have been uniformly fortunate in the choice of contributors; the result is a reliable and comprehensive picture of the knowledge of general medicine of our times. The editors and publishers have rendered the English-speaking medical world a large service.

DIE FORENSISCHE BLUTUNTERSUCHUNG. Ein Leitfaden für Studierende, beamtete und sachverständige Aerzte und für Kriminalisten. Von Dr. Otto Leers, Assistent der königlichen Unterrichtanstalt für Staatsarzneikunde an der Universität Berlin. Paper. Price, 6 marks. Pp. 212, with illustrations. Berlin: Verlag von Julius Springer, 1910.

To compare the manner of conducting examinations in medicolegal cases by the officials of any fair-sized German city with the procedures employed under the prevailing system of coroners and coroners' physicians in this country, would be ridiculous. Only when political or financial prominence demands special investigation do we see anything resembling a scientific handling by experts, who are usually called in after police, coroners and undertakers have spoiled everything possible. Therefore we fear that Leers' concise monographs on medicolegal blood examinations will not have so large a clientele in America as in countries that have fewer cases to investigate and more officials competent to investigate them.

It is an excellent treatise on the subject, giving a full and clear statement of methods and their proper valuation, in surprisingly small space. All standard means of studying blood and blood-stains for legal purposes are described, including not only the chemical, physical and microscopic procedures, but also the technic of the biologic methods by means of the precipitin, complement-fixation and anaphylaxis reactions. About one-half the book is given to these biologic methods, and a good bibliography adds much to its usefulness. The author has evidently planned to supply the needs of students and physicians who are taking a course of instruction in medicolegal methods, and has succeeded admirably in this; at the same time the book will be useful to those wishing to learn the value assigned to the newer methods by an expert; it will also be a starting-point for special consideration of the application of existing methods in any case calling for detection or identification of blood or tissue proteins.

SURGERY, ITS PRINCIPLES AND PRACTICE. By Various Authors. Edited by William Williams Keen, M.D., LL.D., Emeritus Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia, and John Chalmers DaCosta, M.D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. Volume V. Cloth. Pp. 1274, with illustrations. Price, $7 net. Philadelphia: W. B. Saunders Co., 1909.

In this, the fifth and last volume of this work, is found the most complete and comprehensive exposition of the subject of surgery of the vascular system (by Matas) that has appeared in any language. It is practically a monograph on the subject, comprising as it does the first 350 pages of the volume.

Surgery of the pericardium and heart, arteriorrhaphy, arteriovenous anastomosis, aneurismorrhaphy, together with all the recent experimental work done along these lines, are very thoroughly covered. The chapter is a model of completeness and one of the most valuable of the entire system. Following is a chapter on the "Surgery of the Female Genito-urinary Organs" which is a more complete exposition of the subject than is usually found in works of this kind. Among the newer subjects which are found discussed in this volume may be mentioned "Surgery of Accidents," "Surgery of the Parathyroid Bodies," "Intracranial Surgery of the Auditory Nerve," "Local and Subarachnoid Anesthesia," "Surgery of the Infectious Diseases" and "The Legal Relations of the Surgeon."

The authors, editors and publishers are to be congratulated on the excellence of their work and the whole profession for having been favored with such a master production.

EDUCATION IN SEXUAL PHYSIOLOGY AND HYGIENE. A Physician's Message. By Philip Zenner, Professor of Neurology in the Medical Department of the University of Cincinnati. Cloth. Price, $1 net. Pp. 126. Cincinnati: The Robert Clarke Co., 1910.

This book, intended more particularly for the public, is significant both as a message and a sign. As a message it brings to the people the mature thought of one of the ablest members of the medical profession on a subject of fundamental importance to society. It gives an account of an actual experiment, a demonstration of natural and beneficent sex culture in a public school. It teaches, furthermore, what ought to be

taught in families as well as in schools, namely that sexual disease in the individual is the unit of social disease in the race. From this starting point the book treats of means that the medical profession has already recognized and that the public is beginning to recognize as the only logical method of solving the great problem that lies at the foundation of social welfare. As a sign of the times the book is especially significant. It reveals in its pages the fact that our schools for the masses are already taking up this question. It shows, furthermore, that the medical profession is giving careful study to these great sociologic problems and is issuing popular books of scientific value on questions that have too generally been left to ignorant and irresponsible writers. And, finally, it is a sign that the agitation conducted by the social purity associations and the eugenic organizations of the country is bearing worthy fruit. The style is lucid, while the subjects are plainly but delicately treated. It is a work that physicians can recommend when consulted, as they frequently are, about teaching the young on sex questions. It ought to be in the hands of every school teacher and parent.

LEHMANN'S MEDIZINISCHE ATLANTEN. Band VII. Atlas und Grundriss der Röntgendiagnostik in der inneren Medizin. Herausgegeben von Dr. med. Franz M. Groedel, Bad Nauheim. Cloth. Pp. 338, with 297 illustrations. Price, 24 marks. München: J. F. Lehmann's Verlag, 1909.

This work is not intended as a complete exposition of the subject for the use of the expert in Röntgen technic, nor does it take up the question of the use of the *x*-ray as a therapeutic agent, but is intended for the internist who uses the *x*-ray as an aid in the diagnosis of internal conditions. In the opening chapter is a brief description of the necessary apparatus, tubes, tables, screens, etc., with directions for their care and use. The various organs are then taken up and considered in detail, first the normal relations and then the pathologic conditions. Considerable attention is given to diseases of the heart and of the stomach and the value of orthodiagraphy in the diagnosis of the former and of the use of bismuth in the latter are well brought out. The changes which occur in the skeleton in connection with general diseases such as cretinism, myxedema, rachitis, Barlow's disease, osteomalacia, osteitis deformans, toxigenic osteoperiostitis, syphilis, tuberculosis, the arthritides, acromegaly, etc., are also presented. The work is extensively illustrated with 114 cuts in the text and an atlas of 173 autotypes and 122 photographs. A bibliography of thirty odd pages completes the work.

STUDIEN UEBER DIE BEI PERITONÄALEN INFEKTIONEN APPENDICULÄREN URSPRUNGS VORKOMMENDEN SAUERSTOFFTOLERANTEN SOWIE OBLIGAT ANAËROBEN BAKTERIENFORMEN mit besonderer Berücksichtigung ihrer Bedeutung für die Pathogenese derartiger Peritonitiden. Von Birger Runeberg, Assistenzarzt an der Chirurgischen Universitäts-Klinik zu Helsingfors. Paper. Pp. 203, with illustrations. Berlin: Verlag von S. Karger.

This is a careful study of the subject of peritonitis of appendiceal origin. The author shows that the peritonitis in these cases is seldom due to a single form of organism and that the mere fact that but one variety of organism grew on the culture medium is no indication that the peritonitis was due to a simple infection. In most of the cases he finds a multiple infection and shows that the reason why they have usually not been found is that they are anaerobic in their nature and thus do not grow under the ordinary cultural methods. Even in those cases seen early with a slightly turbid serous exudate which ordinarily have shown no bacterial growth, and which therefore have been termed toxic or chemical peritonitis, he finds anaerobic bacteria of various kinds if suitable cultural methods are employed. Naturally the organisms found are those present in the intestine but they do not all live nor are they found in the same relative numerical proportion in the peritoneal exudate as in the intestine. The work contains much valuable information.

WHAT YOU OUGHT TO KNOW ABOUT YOUR BABY. By Leonard K. Hirshberg, M.D. A Text-Book for Mothers on the Care and Feeding of Babies, with Questions and Answers Especially Prepared by the Editor. Cloth. Price, 25 cents. Pp. 97. New York: The Butterick Publishing Co., 1910.

The *raison d'être* of this book, as sufficiently expressed in the preface, is that "more and more the doctor is interpreting it as his mission to teach people how to keep well. And the place to begin is with the babies." In a graphic and forceful way Dr. Hirshberg explodes old theories, superstitions and customs in regard to the rearing of babies, and points out the sensible, the modern way of carrying out this responsible duty and the inculcation of correct habits up to the period of adolescence. The causes of the common but dangerous diseases of childhood and the way to avoid them are explained in a practical way, and the responsibility of parents, through misguided affection and coddling, lack of knowledge or carelessness, for their occurrence is emphasized. The questions and answers at the end of each chapter bring to the consciousness of the reader in a pointed, concrete way the things to be avoided and the things to be observed. It is a practical book and will help in the education of the public in health matters.

THE CONQUEST OF DISEASE THROUGH ANIMAL EXPERIMENTATION. By James P. Warbasse, M.D., Surgeon to the German Hospital, Brooklyn. Cloth. Price, $1 net. Pp. 175. New York: D. Appleton & Co., 1910.

This little book is a timely publication and is commended to those who wish a logical, conservative and rational presentation of the case for animal experimentation. The book is based on addresses given before the New York Academy of Medicine, the Medical Society of the County of Kings, and the Brooklyn Institute of Arts and Sciences; it contains papers on "The Study of Living Animals," "What is Meant by Animal Experimentation," "The Technic of Animal Experiments," "The Meaning of Pain" and "The Relation of Animal Experimentation to Physiology, Surgery, the Practice of Medicine, Hygiene and Diseases of the Lower Animals." The book is recommended to county societies for distribution to the public, and for public libraries. It is especially suitable for school libraries. Dr. Warbasse deserves the thanks of medical research workers for the preparation of this volume.

HANDBUCH DER SERUMTHERAPIE UND EXPERIMENTELLEN THERAPIE. Ein Handbuch für Klinik und Praxis. Herausgegeben von O. Wolff-Eisner, Berlin. Paper. Price, 12 marks. Pp. 408, with illustrations. Munich: J. F. Lehmanns Verlag, 1910.

This book consists of short and concise articles by a number of the more prominent active workers in the field of immunology and experimental therapy. The object is to provide the clinician with an authoritative source for ready reference in regard to serotherapy, vaccine therapy, organotherapy, etc., in their immediate practical bearings. The various chapters are written by men who have made the subjects discussed the object of personal study and investigation. The theoretical discussion is limited to the explanation of the underlying principles of the various methods. There is no question but that the practitioner will find this a useful book; it will help him to a better understanding and utilization of the results of progress in biologic science so far as they concern therapeutics.

ATLAS DER ANATOMIE DES MEDIASTINUM IM RÖNTGENBILDE. Von Dr. Friedrich Albin Hoffman, o. ö. Professor und Direktor der medizinischen Poliklinik an der Universität Leipsig. Cloth. Twenty-five radiographic plates. Price, 12 marks. Leipsic: Dr. Werner Klinkhardt, 1909.

This atlas consists of 25 plates, nearly life size, of Röntgenographs of the chest taken at definite angles through the body so as to present to view, as it were, the contents of the thorax from every possible direction.

The author correctly believes that the normal anatomy should be studied from the viewpoint of the *x*-ray plate before the attempt is made to study the pathologic picture and the object of these plates is to furnish some reliable data covering this particular portion of the body. The plates are very good, although they have lost somewhat in clearness of detail by repeated printing, a loss which is partially compensated for by the descriptive diagrams and explanatory text accompanying each plate.

HYGIENE OF PREGNANCY. By E. H. Harris, M.D., Higginsville, Mo. Paper. Price, 10 cents. Pp. 23.

This little pamphlet, intended for prospective mothers, after giving practical advice and instruction in regard to the diet, the value of fresh air, care of the skin, bowels, the breasts, the clothing to be worn and the correct attitude of mind to be cultivated during pregnancy, then takes up the subject of the approaching labor and the preparation for it and for the newly-born baby, its outfit and its hygienic care, the bath,

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feeding, sleep, dressing, necessity of open air, observation of the weight, the desirability of a quiet environment for the young child, weaning, etc., and closes with some sensible hints in regard to the rearing of the baby during its first year.

PULMONARY TUBERCULOSIS AND ITS COMPLICATIONS. With Special Reference to Diagnosis and Treatment for General Practitioners and Students. By Sherman G. Bonney, M.D., Professor of Medicine, Denver and Gross College of Medicine, Medical Department of the University of Denver. Second Edition. Cloth. Price, $7 net. Pp. 955, with 243 illustrations. Philadelphia: W. B. Saunders Co., 1910.

In our review of the first edition of Bonney's work, we expressed the opinion that it was one of the best works on the subject of tuberculosis. The second edition contains a careful conservative review of newer developments and five new chapters are added. It is the work of an experienced clinician, which makes it particularly valuable to the practitioner, and being the work of one author, it possesses a unity which is often lacking in systems.

CONSUMPTION: ITS PREVENTION AND HOME TREATMENT. A Guide for the Use of Patients. By H. Hyslop Thomson, M.D., Medical Superintendent Liverpool Sanatorium. Cloth. Price, 8l. Pp. 75, with illustrations. New York: Oxford University Press, 1910.

This little book is written to be a guide for the use of patients. The author is medical superintendent of the Liverpool Sanatorium and a series of lectures delivered to patients in this institution form the basis of this volume. It contains a clear, simple statement of what tuberculosis is, how it is transmitted, and how patients must live to get well. Its simplicity, directness and good sense ought to make it a useful guide for curable consumptives. It is not intended to take the place of the physician but to supplement his directions.

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Society Proceedings

OHIO STATE MEDICAL ASSOCIATION

Sixty-fifth Annual Meeting, held at Toledo, May 11-13, 1910

(Continued from page 1897, Vol. LIV)

President's Address: The Relation of the Medical Profession to the Public

DR. W. H. SNYDER, Toledo: It is manifestly impossible for so complex and necessary a science as medicine to live without a certain amount of easy articulation with the public. If the profession had not lived so much within itself, but, rather, had spread its ideals and discoveries before the public, antivivisection, Christian science, osteopathy, optometry and mental healing could not have gained ground, except with those who are mentally incompetent. Well-known weekly and monthly magazines have during the past two years probably done more to educate people along correct lines of medical thought than any other single agency. They reach a larger number of people, who are largely visualists, and must see in cold print what is intended for them to know, and, too, are regarded as stating the case more impartially than physicians would. I prophesy that the time will come when the medical profession will be compelled to print a magazine for lay circulation along these very lines, and I suggest that the association seriously consider the establishment of a bureau at Columbus, which would constantly be influencing the public thought through the newspapers, magazines and public addresses.

One of the lamentable things in Ohio is the condition of the state institutions, especially those for the insane; the most that can be said for them is that they are houses of detention and not hospitals. The medical profession of the state should take it on itself to submit a list of medical men available as superintendents for this work, and recommend to the legislature that some action be taken which will lead to an adoption of executive and medical supervision. Too much attention is paid to the per capita cost per year, rather than to the results from a medical standpoint.

The association should adopt the plan of the parent organization of having a president-elect, and an earnest inquiry should be made into the virtues of the plan for medicolegal defense, such as had been adopted by the Toledo Academy of Medicine.

The Principles of Medical Defense as Applied to the Ohio State Medical Association

DR. WILLARD J. STONE, Toledo: Since most so-called malpractice suits against physicians arise from misunderstanding or for purposes of extortion, a stiff defense by a firm of attorneys experienced in such work is usually enough to lessen the ardor of any adventurer or unscrupulous lawyer. Physicians who are members of such an organization are more careful in opinions expressed regarding the work of their associates. The defense deals only with civil action brought against members of the society; no attempt is made to excuse negligence or culpability. In such case physicians are advised to settle the matter in hand as seems best to the executive committee and the attorneys. In all states which have so far tried the plan, it has proved successful from a financial point of view. It furnishes members a cheap insurance, but not for profit, and such a feature greatly increases membership in the state organization. The number of malpractice suits has been decreased at least 25 per cent. in states which have adopted the medical defense feature.

LEGISLATIVE NOTES

Condemnation of Benzoate, Etc.

A motion was carried deprecating the use of benzoate of soda and similar chemical preservatives in the preparation of foodstuffs intended for human consumption, and urging on Congress such modification of the Food and Drugs Act as will make their use impossible.

A telegram was sent to the governor of the state urging him to use his power of veto against the optometry bill.

Eugenics and the Sterilization of Criminals

The committee on vasectomy reported that a bill providing for the sterilization of habitual criminals had been prepared, but was buried in committee. The laity is little less informed on the need of such legislation than is the medical profession itself. The idea of human sterilization is repugnant to the average man, and unless he studies the subject carefully and also learns what has been done, he will turn from any such proposal in disdain. He has little patience even with the reasonable proposal to emasculate the habitual sexual criminal. It is the opinion of this committee that the subject of parenthood and race culture, the so-called science of eugenics, should receive vastly more attention than is accorded to it in the reading and study of the average physician, to say nothing of the average layman. It can be laid down as an axiom that there can be no interference with child life after the union of the cells concerned in reproduction; all that then can be done is to provide for the child's environment and education. The only means we have to redress the imbalance which threatens to engulf us in the relative rates of reproduction in the inferior and superior classes is to prevent in some way the multiplication of the former and to encourage it in the latter. Nature preserves the balance by killing the unfit in all living species except man. Savage races are subject to the same law. We who are moral and humane and have not in our own hands the issues of life and death, must preserve and elevate the race by preventing the unfit from ever coming into existence at all. We must replace Nature's relative death rate by an intelligent relative birth rate. This means vast economy in life, in money, in time, in suffering. It is merciful and supremely moral. It is natural at bottom, but it is Nature raised to its highest power in the moral intelligence of man. In view of these truths the committee recommended that the state committee on public policy and legislation be charged with the duty of continuing the agitation in published articles in our journals and through other channels for the education of the profession and the people, and that a bill embodying the principle of sterilization of habitual criminals be introduced for enactment at the next session of the Ohio legislature.

National Department of Health

A resolution was passed endorsing the bill introduced in the Senate by Senator Owen to establish a national department of public health.

A Section on Sanitary Science and Hygiene was organized.

Trend of Laboratory Diagnosis in the Past Ten Years

DR. FRANCIS CARTER WOOD, New York: The time has come when it is absolutely necessary for the practitioner of medicine and the laboratory specialist to unite in their work, if the patient is to receive the best treatment, and medicine is to be advanced along practical lines. In the past, many laboratory investigations have been of little value, because they lack direct application to live conditions and are much too theoretical. The practitioner who had no laboratory training was hampered in the diagnosis and treatment of his cases. The tendency is, even now, noticeable, in medicine, to place the treatment of a few infectious diseases in the hands of men whose training has chiefly been of a laboratory nature, examples of which may be cited, the application of tuberculin and the vaccine therapy. Laboratory methods consist of those which the practitioner himself should regularly employ, and those which, on account of their very complication, must be carried out in a fully equipped laboratory and only by specially trained men. However, the physician must have full knowledge of the relative value of the laboratory and clinical symptoms. In some diseases the laboratory findings are of the utmost importance; in others of relatively small value. The subcutaneous injections of tuberculin, the Von Pirquet, Moro and Detre tests, require a somewhat extensive experience to use and interpret them intelligently. This is also true of the therapeutic use of tuberculin. The vaccine treatment of Wright should be confined to men who have had special laboratory training and experience. Many of the unsuccessful cases recorded and some of the unfortunate results that have been obtained by the use of the vaccine therapy are undoubtedly due to the injudicious employment of this method in unsuitable cases.

Another important method in diagnosis and treatment, which must be carried out by laboratory men, is the Wassermann reaction. This test I consider as possibly the most important laboratory contribution to diagnosis of the past ten years. It is of great importance in the inspection of wet nurses, in quieting those who suspect, without reason, that they may have contracted syphilis, and life insurance companies might with advantage use the test in doubtful cases. Certainly those who give a positive reaction could not be considered ordinary risks.

But laboratory and instrumental methods by no means replace the clinical history and careful examination of the patient. In probably 90 per cent. of persons treated in general practice the use of laboratory methods adds but little to diagnosis or treatment, but in the remaining 10 per cent. such tests might be of vital importance. Especially is this true of persons to be treated by the newer sera or bacterial products, where an absolutely accurate diagnosis is necessary. The main fact to be kept in mind is that the time has come when there can be no separation of the clinical and laboratory aspects of medicine, and patients have a right to demand every means which will give them the best hope of cure.

Trivialities and Progress

DR. JOHN F. BINNIE, Kansas City, Mo.: A consideration of some apparently self-evident principles, observations and investigations and of the benefits accruing from their recognition is not only interesting but will encourage one to pay more attention to common sense in an age when we are liable to be swamped by the flood of wierd technical terms and weirder processes constantly flowing from the laboratories. While exact laboratory and experimental work is an absolute essential in progress, unfortunately too common though unavoidable divorce of the laboratory from the clinical study is liable to render the laboratory observer tyrannical or bigoted.

From the earliest days the milkmaid knew that her milk would sour unless her pans were thoroughly cleansed and scalded; the housewife knew the preserves were safe if, after being thoroughly boiled, they were kept free from air pollution; the plainsman knew that his jerked meat if well dried was an assured asset. And yet surgeons were blind to the significance of these observations until the researches of Pasteur were published in France and applied to practical surgery by Lister in Glasgow. In early operation for rupture opposing edges were brought together and sutured; now all successful operations for inguinal hernia aim at the restoration of the canal by securing apposition of surfaces instead of edges. The whole principle of the closure of hernial openings is based on the fact that it is much easier to gum two sheets of paper together by their faces than by their edges. Such principles are so absurdly simple that it seems almost an impertinence to mention them, and yet surgeons were blind to them. The marvelous advance of bacteriology has been rendered possible by the simple discovery of the separation of the bacteria in a solid culture medium.

Some Germans recently discovered that a ganglion is the result of a colloidal degeneration of connective tissue, and that bursæ seem to have a similar origin. Comparison of the histology of ganglia, bursæ and joints show the three structures very similar if not practically identical. Nélaton and others were struck by the fact that non-union of fractured bones was commonly due to interposition of muscle, etc., between the fragments, hence in cases of ankylosis of the lower jaw they excised the tempero-maxillary joint and filled the osseous defect with a flap of tissue from the temporal muscle. John B. Murphy put these things together with the spark of genius. Why would not similar degeneration take place in flaps of tissue made to envelop opposed sawn surfaces of bone? The result is a new chapter added to surgery, viz.: arthroplasty. Sprains are no longer treated by complete rest, but by means of adhesive strips strain is taken off the injured structures and the patient thus protected and urged to use the injured joint, with the result that the active movement of the parts encourages absorption of the exudates and encourages nutrition while discouraging the formation of crippling adhesions and callosities. In vascular surgery the observation of the mesentery of the frog showed that where the blood stream slows the corpuscles congregate and the circulation stops, because the mesentery so quickly dries, but if kept moist in salt solution it can be observed uninterrupted; the fact that an eye kept open and dry will develop conjunctivitis; that where a loop of intestine is pulled out it quickly loses its normal luster, becomes dry and later covered with lymph, so that it readily adheres to almost anything with which it comes in contact—all these things our predecessors were blind to. Physicians will protect exposed abdominal contents with dry gauze, than which there could be no material better adapted to dry the delicate peritoneum and produce the phenomena of inflammation. If the gauze be wrung out of warm salt solution, or, better, out of warm liquid petrolatum, then it becomes a real protection not only against infection but against evaporation. That the Criles and the Carrels have succeeded in arteriorrhaphy where their predecessors failed lies in the fact that the successful experimenters prevented evaporation and drying of the intima, recognizing the fact that blood will coagulate on the intima of a vessel when that intima is inflamed, and that any delicate serous or mucous membrane exposed to the air becomes dry by evaporation and so inflamed. The rest of us had looked at the blood circulating in the frog's mesentery and had known of the necessity of keeping the mesentery moist lest the circulation stop; but we were not seers—we could not see the obvious and so failed in progress.

Ulceration of the Larynx Following Intubation in Membranous Croup

DR. J. M. PHILLIPS, Columbus: Out of four hundred and twenty cases I have observed this sequel twelve times. The exciting cause is undoubtedly the pressure which the tube exerts on tissues already lowered in vitality as a result of diphtheritic inflammation, and while the metal and hard rubber tubes seem equally apt to produce ulcers, undoubtedly a tube which is too large or which is awkwardly or forcibly intro-

duced is more likely to produce ulceration than one which fits exactly and is introduced by a skilled hand. The early symptoms are not easy to recognize. In one class of cases when the tube is removed the child is unable to obtain a single inspiration, or else shows rapidly increasing dyspnea, making a reintubation necessary in a few hours, in which cases the ulcers have probably already formed and the larynx is swollen and softened. In a second class the patient does nicely for several days, then gradually develops the symptoms of laryngeal obstruction, and operative interference becomes imperative. At first I believed the dyspnea was due to a reflex spasm of the vocal cords, but, having an opportunity to examine with the laryngoscope, I saw the cords open, but the larynx was partially occluded by a collapse of its anterior wall. The softening of the cricoid and thyroid cartilages, which have to bear the greater part of atmospheric pressure during inspiration, permits them to collapse during inspiration as a result of this external pressure. In all cases after ulceration is well advanced the most pronounced symptom, and one almost pathognomic of ulceration, is the repeated coughing up of the tube, the expulsion of which is followed immediately by intense dyspnea or even asphyxia. In hospital practice most of these patients die from bronchopneumonia, due to aspiration into the deeper bronchi of pus from the ulcerating surfaces. In private practice most of the patients cough up the tube and die from asphyxia before the physician can reach them. The treatment is unsatisfactory. Six patients with suspected ulceration recovered when treated by sedatives and by removing the tube quickly or allowing it to be coughed up. Under expectant treatment there were six deaths from bronchopneumonia and one from asphyxia, and one recovery with partial stenosis of the larynx. After tracheotomies there was one death from asphyxia, two recoveries and one child which died of measles after wearing the cannula five months.

DISCUSSION

DR. THOMAS HUBBARD, Toledo: In these days of antitoxin intubation is practically a lost art. The tendency now is to wait longer than one would in the pre-antitoxin days; consequently it is the most desperate class of cases that have intubation. These cases of deep ulceration and complications following intubation have been due to mixed infection rather than pure diphtheritic infection. Shurley of Detroit, in 400 cases, was able to study 30 for five years after intubation, and in only a few was there even the symptom of hoarseness. In other words, the slight erosions from the calcareous deposits on the tube rarely result in permanent injury. The size of the tube is important, not as regards the child's age, but the actual condition encountered, a smaller tube sometimes being required on account of the extreme swelling. Also the matter of introduction and extraction is most important. The old tubes, after the original methods of O'Dwyer, were the most perfect and satisfactory.

Pleurisy, Both as a Complication and as a Sequel of Lobar Pneumonia; Diagnosis and Treatment

DR. JAMES M. ANDERS, Philadelphia: While it is universally conceded that pleurisy is the commonest complication of the pneumonic process, it should be regarded as a complication only when the dry plastic variety is of marked severity, or pleurisy is accompanied by sufficient effusion to be easily demonstrable by means of the physical signs. There are instances of pleurisy of the plastic variety that clearly precede the development of a pneumococcal infection of the lung, and this class of cases has not received the measure of consideration that it would seem to merit. It is often difficult to distinguish such cases from those presenting identical signs, without the tendency to merge into pneumonic features; but an examination of the blood usually reveals a leukocytosis. The systemic prostration is greater and the temperature range higher than in non-pneumococcic pleurisies. It is well in suspects to attempt to demonstrate the pneumococcus in blood cultures. With regard to pleural effusions in children, as related to lobar pneumonia, two points deserve special notice: first, as compared with adults, purulent effusions from all causes are more frequent relatively than serous; and second, during early childhood not less than 75 per cent. of empyemata are due to the pneumococcus, according to the figures of Netter, Blaker and others.

The question of its bacteriologic cause is important. The pneumococcus is often found in a state of purity, but it may also occur mixed with the streptococcus, the staphylococcus, the tubercle bacillus, and rarely with other organisms. These facts have a practical bearing on the diagnosis, prognosis and treatment. Exploration with a needle in highly suspicious cases may be demanded, but shock, even of the slightest degree of intensity, is badly borne by pneumonia patients, and a small needle is to be preferred. A gradual fall of temperature in pneumonia rather than crisis, is often due to associated pleuritis.

The general features of pneumococcus empyema are usually more or less indefinite. If a complication, the temperature usually falls by lysis and an irregular fever curve may exist for weeks in unrecognized cases. Empyema as a sequel is usually easy to detect; irregular fever returns, the prostration increases, and there is rise of the leucocyte count. Spontaneous rupture should not be awaited. Exploratory operations will not only clear the diagnosis, but also accomplish the cure in a majority of cases. It is of the utmost importance to avoid the use of drugs that act as depressants in all pneumonia cases. Counter irritation in milder cases, and the complete putting to rest of the inflamed structures are advisable. The treatment of empyema is surgical. Somewhat massive doses of the tincture of the chlorid of iron is apparently efficacious.

(*To be continued*)

AMERICAN NEUROLOGICAL ASSOCIATION

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(*Continued from page 1895, Vol. LIV*)

Case of Resection of Dorsal Spinal Nerve Roots for Gastric Crises of Tabes

DRS. J. J. THOMAS and E. H. NICHOLS, Boston: Aside from the case reported by Förster and Küttner, one other case has been found in the literature, reported by Bruns and Sauerbach, both operations having been done in the summer of 1909 and both followed by complete relief. Our patient was a man, 32 years old, a widower, with one healthy child, a girl of 13. The birth of this child was followed by three or four miscarriages of unknown cause. Syphilis was denied. The gastric crises began about eight years before, and in October, 1905, the abdomen was opened, but nothing abnormal was found, except a few adhesions of the omentum to the gall-bladder, which did not pull on the stomach. These adhesions were freed. The attacks continued and the man entered the hospital, Aug. 3, 1908; at that time his attacks came at intervals of one week to one month, and lasted from one to ten days with severe pain and vomiting, accompanied usually by diarrhea. There had been no loss of control of the bladder, but some diminution of sexual desire. No lancinating pains, no diplopia and no ataxia in walking or standing, but very slight ataxia in movements of legs with eyes closed. Hypertonicity in legs well marked. Pupils moderate size, regular and equal, reacting with accommodation, but not to light. Patellar and Achilles reflexes equal and present. At this time he had become habituated to the use of morphin and was taking about a grain a day. The attacks continued, gradually becoming more frequent, seldom a week passing without one. In August, 1909, the Noguchi serum test for syphilis was positive.

At the time of operation the weight, formerly 145 lbs., had fallen to 100 lbs., sensation for touch and pain was diminished on the chest from the third to fifth rib and the abdominal reflexes were lively. The left Achilles jerk had disappeared though the right one and the patellar reflexes were present. March 3, 1910, the 7th, 8th and 10th thoracic dorsal roots were cut. After the operation for a time there was severe twitching of the abdominal muscles at times and pain about the chest, which gradually diminished. He vomited once while still in the hospital after being given mercury by mouth and once after his discharge after eating beans, but neither time

was there any pain, nor was the vomiting persistent, being over within an hour. There was the same condition on examination, but an absolute loss of the sense of touch and pain from the level of the sixth rib to three fingers breadth above the umbilicus and from this area no abdominal reflexes could be obtained, but it was present and increased on irritating the skin of the lower abdomen. The man regarded himself as cured of his crises, but had not gained in weight and was attempting to diminish his morphin and had reduced it to ½ of a grain a day.

DISCUSSION

Dr. J. K. Mitchell, Philadelphia: How does Dr. Thomas justify the diagnosis of locomotor ataxia with knee jerks still present? In the last year I have seen one case of tabes in which gastroenterostomy was done and two cases in which operation was done for gastric crises and two in which gallstones were hunted for. Presumably in none of these cases did the surgeons take the pains to examine either the knee jerks or the eye reflexes.

Dr. P. C. Knapp, Boston: I must confess that theoretically I am somewhat skeptical about the results of operating on the posterior roots for the gastric crises of tabes, because of the physiologic fact that the nerve supply of the stomach is dependent very much more on the vagus than on the sympathetic. Dr. Thomas' success, however, led me to have another patient, whose case is very similar to his, operated on by Dr. Blake a day or two ago. In answer to the objection Dr. Mitchell raised to the diagnosis in Dr. Thomas' patient, I would say that in the last few years, as well as previously, I have seen many cases with pretty clear tabetic symptoms but with retained ankle jerk.

Dr. H. Cushing, Baltimore: I would like to make an arrangement with Dr. Mitchell whereby I could turn over for his collection a list of cases of the kind he mentions of which I have cognizance in return for a list of cases of brain tumor long treated for gastric headaches. Just a day or two ago a patient, a woman who had very persistent crises with great pain, was transferred from the medical to the surgical side for operation, but when I saw her I decided to delay operation, as she was absolutely free from pain. I do not think any surgical cases of disease reported after they have been done a month really convey a fair general impression as to what the author's results are.

Dr. J. Collins, New York: I am very much in favor of the operation in cases that are intractable. In reference to knee jerks being present in tabes, I would say that in 10 out of 20 cases of tabes the knee and ankle jerks are present.

Dr. F. X. Dercum, Philadelphia: A man seen by me many years ago, long before we had resorted to the examination of the cerebrospinal fluid and the Wassermann test, had frightful suffering, apparently crises of tabes, though the knee jerks were retained. There was no marked disturbance of sensation anywhere, but there were markedly contracted pupils. The patient was a user of morphin, but on being persuaded to do without hypodermics 48 hours he had a good pupil, which responded to light. In other respects the symptoms varied somewhat. There were symptoms of a gastric nature. Dr. Keen excised a small gastric ulcer and the man recovered. I believe that this operation promises something in an otherwise very serious affection.

Dr. J. J. Thomas: I agree with Dr. Collins that we frequently make the diagnosis of tabes in the presence of knee jerks and ankle jerks. The reflex of the pupils was absent to light, although retained at first, and the man had marked hypertonicity, which I thought was fully as important to tabes as ataxia, and I felt justified in calling the case one of tabes. I made the Noguchi test and it was positive for syphilis. The count of the cerebrospinal fluid was not made. At operation there was found a marked degeneration of the pia.

Oculomotor Palsies Due to Vascular Constriction in Cases of Brain Tumor

Dr. Harvey Cushing, Baltimore: Oculomotor and particularly abducens palsies, more or less fluctuating in degree, often occur in cases of tumor and are included among false localizing signs. Various explanations have been offered for their occurrence. Contrary to the usual anatomic description, these nerves underlie the lateral branches of the basilar artery, which have a rubber band effect and so constrict the nerves as to block their transmission of impulses. The condition is most apt to accompany tumors of the posterior fossa.

A New Type of Pressure Myelitis

Dr. Graeme M. Hammond, New York: Author's observation is based on the study of seven cases. The pathologic conditions of this disease seem to consist of the development of an enormous amount of new bone tissue, which is spread over a number of vertebræ and adjacent rib ends, obliterating all articulations and giving the affected vertebræ and ribs the appearance of being one single piece of bone. The development of new bone also occurs within the vertebral canal and gives rise to compression of the cord, causing both sensory and motor symptoms, but eventually leading to the most intense rigidity of the entire voluntary muscular system below the level of the lesion. There was gradual development of the "bible back" or forward curvature of the vertebral column seen in spondylose rhizomelique, but in none of the cases was there any evidence of rheumatism.

DISCUSSION

Dr. B. Sachs, New York: I have seen a number of cases that have offered some difficulty in diagnosis, particularly in trying to make the differential diagnosis between such conditions as described and a simple myelitis. Within the last few months I have had two cases of absolute spinal rigidity. An *x*-ray picture was taken in one case and showed a condition very much like the one presented by Dr. Hammond. In this patient, a man of about 35, the rigidity of the spinal column was absolute from the third or fourth cervical vertebra to the very end of the spine. In fact, there was no movement possible of the body, except slight movement of the head forward and a slight lateral movement of both sides. There were extreme contractures and atrophies. The man as he now lies in bed has his knees so completely contracted that you can hardly put a hand between the posterior surface of the thigh and the posterior surface of the calf, the legs are locked together and there is absolutely no motion of any part of the leg, except of the toes. The atrophy is more extreme than I have ever seen it in any case of ordinary spinal origin. There is hardly a bit of tissue left; the skin seems as the bone. So far as the diagnosis is concerned I am not ready to suppose this represents an entirely new type of disease. I think these cases are closely related to the spondylose rhizomelique type. I hope that in all these cases of mysterious spinal disease an *x*-ray picture will be taken, for nothing is more serviceable in case of mysterious spinal disease in reaching a diagnosis when medical signs are wanting.

Dr. D. J. McCarthy, Philadelphia: My feeling is that we are dealing in these chronic cases of rigidity of the spine with not only a factor involving the bone and cartilages, but an involvment of the spinal dura on its external surface, and this should be examined very carefully microscopically. It is more rational to suppose that where you have an extensive process it would more likely be due to inflammatory changes in the dura, a condition localized to one group of joints. The bone changes are secondary and are not the primary disease.

Dr. W. G. Spiller, Philadelphia: I have not quite understood from Dr. Hammond the distinction between the type he has described and that which von Bechterew describes. Von Bechterew makes a distinction between his forms and those of Marie. There are in this connection two other kinds of disease. They are not likely to cause confusion in diagnosis, but they are interesting to mention. Eight or ten years ago Dr. Mills and I reported a case of a man who was paralyzed and had rigidity of the spinal column. We found that the dura was firmly adherent to the bodies of the vertebræ throughout the whole course of the spinal canal, and in removing the cord it had to be cut away inch by inch. I recently had an interesting case in a man who developed paralysis and exaggerated reflexes of his lower limbs. The disease gradually progressed upward, involving his left arm and then the other arm, and

the course of the disease was only a few weeks. I found a growth on the outside of the dura which under the microscope shows probable endothelioma. This is the first case I have seen of real endothelioma developing primarily between the dura and the bodies of the vertebræ.

DR. G. M. HAMMOND: In regard to the case Dr. Sachs spoke of, I think there is no doubt that it is a case of spondylose rhizomelique; he has the muscle changes which go with such conditions. In none of my cases was there any ankylosis of the hip joints, or atrophy. The rigidity was a muscular spasticity just as we see in a myelitis of the crossed pyramidal tract with the attendant symptoms of clonus, Babinski reflex and exaggerated reflexes. This persisted until rigidity had become great. All these patients die. Not so with the cases of spondylose rhizomelique; many of the patients live on for years. I agree with Dr. McCarthy that the bone changes are secondary. In all the cases the first symptom elicited was the curvature and rigidity of the spine coming on three or four years before the first spinal symptom was apparent. In regard to the changes of the dura spoken of by Dr. Spiller, in the only case I have had a chance to examine the dura it showed no adhesion. So I doubt whether adhesions of the dura have anything to do with the symptomatology of this condition. It simply seemed to me that on account of the increase in the body tissue the spinal cord is gradually compressed and destroyed, and these patients die. I do not think it tallies at all with any of the cases described by von Bechterew. It may not be a new disease, but it is new to me and I have no doubt that when attention is called to it we will find a good many cases of similar type, but it is not that of spondylose rhizomelique.

Cyst (Possibly Traumatic) of Spinal Meninges Removed by Operation, with Recovery of Patient. Location of Centers for Testicular Sensibility

DR. CHARLES S. POTTS, Philadelphia: A farmer, aged 42, received a blow on the back eighteen years before coming under observation. No serious symptoms were caused at that time. Two years before admission to the hospital (12-8-09) he began to have attacks of severe shooting pains in the left hypochondrium. During the attacks the lumbar muscles of the left side were thrown into spasm. At this time a girdle pain extending through the umbilicus was also present. A few months before admission first noticed difficulty in walking. Examination showed a very ataxic gait. Muscular power of the legs good; K.J. plus, A.J. plus. Babinski on the right side. The cremaster reflex was present on the left side but absent on the right. Abdominal reflex absent. Station poor, heel-to-knee test poorly performed, unable to recognize the direction of passive movements of the toes. An area of possible hyperesthesia and hypalgesia extending about four inches below the right groin. Both testicles completely insensitive. Sphincters normal. The laminæ of the sixth, seventh, eighth, ninth and tenth thoracic vertebræ were removed. A soft growth, pronounced by the pathologist to be a traumatic cyst, was found extending subdurally from the lower angle of the wound (first lumbar segment) upward for about three inches. Complete disappearance of pain. Testicular sensibility returned and there was nearly complete disappearance of all the other symptoms.

Tumors and Cysts of the Spinal Cord and Its Envelopes

DR. CHARLES K. MILLS, Philadelphia: I will present the histories of three cases of intraspinal disease. The first was one of tumor of the lower cervical region; the second was a cyst of the thoracic region similar to those which have been described under the designation of circumscribed serous meningitis; the third was a sarcoma involving the cauda equina and lumbosacral roots, and to some extent the cord. The chief points of interest in the case of subdural cervical endothelioma were the exact localizing phenomena present—early pain at the upper pole of the growth as indicated by its distribution, the moderate but distinct atrophy and loss of power in the hands and fingers. Compression of the pyramidal tracts as shown by paresis and exaggerated reflexes in the lower extremity and impairment of the reflexes in the upper extremity on the side of the tumor. Anesthesia in the case was very slight and chiefly confined to tactile loss in the postaxial portion of the hand and forearm. After the operation contraction of the pupil and ptosis or pseudo-ptosis were present, these apparently being caused by injury or section of communicating branches to the sympathetic.

The case of thoracic "cyst" was distinctly in its appearance like those which have been described as instances of circumscribed serous meningitis. It was localized by hypalgesia, the upper limit of which was two or three inches above the umbilicus. Severe and persisting pain both in the back and in one of the lower extremities at first without and later with complete paralysis in both extremities, exaggerated reflexes, including the Babinski response, with bladder and rectal involvement, were the most marked manifestations. After evacuation of the cyst the pain was for a time relieved, the patient recovered the use of his limbs so that at first coarse movements and afterward the movements of the toes could be performed. He suffered, however, from serious cystitis and delirium, probably dependent on toxemia. He made what might be termed a partial recovery, but relapsed.

In the third case, that of sarcoma of the cauda equina and lumbosacral roots, the early manifestations were pain of an extremely severe character, which affected the back and the extremities first on one side and then on the other. In this case the anesthesia which developed indicated involvement of the posterior nerve roots, at first of the conus and later of roots higher up, as high as the second lumbar. They were distinctly root areas, not segmental or of the extravertebral neural type. The patient eventually was completely paralyzed, with marked atrophy, paralysis of the sphincters, and the whole train of phenomena showing destructive implication of the nerve roots originating from the lumbosacral spinal cord. The cord itself was also apparently involved by pressure or extensions of the lesion.

DISCUSSION

DR. W. G. SPILLER, Philadelphia: The case of circumscribed serous spinal meningitis reported by Dr. Martin, Dr. Musser and myself was the first of its kind reported. The patient is now in perfect health, except that she occasionally has a little pain in the back, possibly from catching of some fibers. There is no possibility of diagnosing a circumscribed serous meningitis from a tumor. As Oppenheim has pointed out, there will be variation with the fluctuation of the fluid in the dural canal.

DR. G. JACOBY, New York: I present two specimens. One was taken from a man who suffered with symptoms of gradually increasing pressure paralysis and paresis and disturbance of sensation for a period of ten or twelve years. He was able to walk to the hospital but had marked weakness of both lower extremities. There was sufficient sensory disturbance to enable us to make a diagnosis of probable intraspinal tumor at the sixth dorsal vertebra. At operation we found at this sixth dorsal segment an enchondroma growing from the body of the vertebra into the spinal canal compressing the cord so that the cord was attenuated to simply a filament. The second patient was operated on by Willy Meyer and a glioma removed from the cord substance. In this case the entire history of disease was only three months. The first symptoms were weakness of the lower extremities which progressed so that there was spasticity and paraplegia and all the symptoms of complete pressure paralysis of the cord. The tumor in this case was the size of a large cherrystone.

DR. G. L. WALTON, Boston: With regard to the level of anesthesia as determining the position of the spinal tumor, one very practical point is to be borne in mind, namely, that the accumulation of fluids, whether in the cord itself or in the membranes, is likely to produce symptoms which may be erroneously credited to the tumor itself. It is true that in the majority of cases the point selected for operation should err in the direction of being set too high rather than too low. But, if we always follow this plan, we may be misled, as in a case in which I recently had occasion to advise operation. In this case severe pain in the lower back and extending down the thighs was rapidly replaced by paraplegia with numbness extending nearly to the umbilicus. Finding it hard to credit

the tumor itself with such rapid growth I was guided rather by the initial pain, and advised removing the tenth and eleventh dorsal laminæ. Operation at this point disclosed the upper limit of the tumor, above which the cord was apparently normal. If the cord had been exposed at the level indicated by the level of anesthesia, its normal appearance would have led to the erroneous conclusion that no tumor existed. I am inclined to credit accumulation of fluid with the rapid extension of symptoms.

DR. J. J. THOMAS, Boston: I agree with Dr. Spiller in reference to diagnosing circumscribed serous meningitis from tumor. In regard to the point of differential diagnosis between growths of the spinal cord, whether from the pia or dura, I confess that I have less confidence in our ability to differentiate them exactly. In the case that Dr. Walton referred to I was rather opposed to operation because of the intense character of the symptom, coming on suddenly, which seemed to him to point to total destruction. Within two or three days the man became completely paralyzed in both sensation and motion.

DR. H. T. PATRICK, Chicago: The upward movement of the umbilicus when the patient, lying with his arms folded across his chest, raises his head from the pillow, known as Beevor's sign, is of service in diagnosis in spinal cord tumors. The recti muscles are not paralyzed but the muscles below are paralyzed and the umbilicus makes an excursion of a half inch or even more.

DR. E. JONES, Toronto, Canada: I was Dr. Beevor's assistant for a few years and I would add two points to what has been said of Beevor's sign. In some cases you will get it obliquely, not only drawn upward, as one of the muscles is paralyzed below, but sometimes obliquely to the right or left which gives a clue to the side of the tumor. Further, in cases of congenital dystrophy with paralysis the umbilicus is drawn downward.

DR. M. A. BLISS, St. Louis: I have had quite a distinct case of circumscribed serous meningitis. A laminectomy was done, then a second laminectomy, when an endothelioma was found.

DR. C. K. MILLS, Philadelphia: I am not altogether satisfied with the term circumscribed serous meningitis or with the explanation which is involved in the use of this term. In the case which I reported I think it quite possible that there was more than was apparent. The probabilities are that there is a universal serous meningitis and possibly chronic meningitis with, perhaps, two or three pockets where cystic foci appear, as in the present case. The differentiation between intrapelvic and spinal tumors can usually be made. We simply have not been careful enough.

Fracture of the Bodies of the Fourth, Fifth and Sixth Cervical Vertebræ with Injury of the Spinal Cord

DRS. W. H. SWAN, Colorado Springs, C. A. POWERS, and H. T. PERSHING, Denver: A man, aged 70, fell from a horse, striking on his forehead. There was immediate motor and sensory paralysis below the neck with evacuation of bladder and bowel, without loss of consciousness. Extreme shock, followed for some months by improvement, without restoration or ability to stand, sit alone, or turn in bed. Daily catheterization was done with no ill effects. Eczema which was present rapidly disappeared on the anesthetic skin up to a sharp line of demarcation, then slowly cleared above. There was greater mental activity and happier mental state during about 18 months than before injury, probably due to relief from unpleasant sensations. Death took place 28½ months after injury from uremia. Operation was considered and rejected on account of patient's age and the improbability that a remediable lesion would be found. Fixation of head was deemed inadvisable. The dried preparation of the cervical spine of this patient shows no lesion of the arches or articular processes but a moderate crushing of three bodies which could not have been remedied by operation. Localization diagnosis was based on retention of power in deltoids and biceps with paralysis of both triceps muscles which indicated a lesion of the seventh cervical segment. Faradic tests indicated almost complete escape of anterior gray horns and anterior roots. Autopsy showed the bodies of the fourth, fifth and to a lesser extent the sixth cervical vertebræ to have been fractured by a crushing force but the fragments united in normal position. The arches and articular processes showed no injury. Preliminary histologic examination shows the usual ascending and descending degeneration.

DISCUSSION

DR. H. N. MOYER, Chicago: This case follows the general rule that the fifth cervical is the most frequent seat of these cervical fractures. So far as operation is concerned, this case rather favors operation. The value of operation in these cases is unquestioned. The distinguishing features for the neurologist is to understand if there is extrinsic pressure. The hematomyelia is not, of course, to be operated on. I do not wish to be understood as saying that this old man of 70 ought to have been operated on. I am speaking of the broad general principle of operation. I believe it to be a sound rule to fix the cervical vertebræ where you have a fracture if you don't operate. In all the cases I have seen I have recommended fixation.

DR. H. T. PERSHING: When it comes to a question of operation in a case of this kind you have to consider the individual patient and the advantage of accomplishing anything. In this case, of course, we could not have reached the seat of fracture in the bodies and done anything with them. The risk from the operation *per se* is very great and, of course, with this particular man would have been very much greater. There were many things aside from his age which made it necessary to be very cautious about operation. The question of fixation was discussed very carefully and very earnestly and it was decided in the negative, mainly on account of the absence of rigidity and pain; the disposition of the patient after being warned was to keep his head still on the pillow. Also because of his temperament it would have been very difficult to make him submit to fixation.

(To be continued)

NORTH DAKOTA MEDICAL ASSOCIATION

Twenty-third Annual Meeting, held at Grand Forks, May 10-11

Under the Presidency of DR. J. E. COUNTRYMAN

Officers Elected

The following officers were elected: President, H. H. Healy, Grand Forks; secretary, Dr. H. J. Rowe (re-elected), Casselton.

Benefits of Organization—President's Address

DR. J. E. COUNTRYMAN: So many members of the profession do not appreciate the many advantages of a meeting of this kind, where for the time being we can lay aside the cares of the profession, where we can absorb knowledge, one from the other, get new ideas, rub elbows with the other fellow and go home with new incentives to do better work and accomplish greater things. When a physician thinks it unnecessary to belong to his district society or to take some interest in the affairs of his state organization, or, in short, thinks there is nothing further for him to learn, then he is unable to make such use of his talents as should be expected and demanded of him by his patients. During the past year we were favored by a series of addresses from Dr. J. N. McCormack of Bowling Green, Ky. His remarks were timely and will be productive of much good, and the thanks of this Association are due to him and also to the American Medical Association, under whose auspices it was made possible to carry out this line of work. I particularly wish to call your attention to the subject of medical legislation. We have reached a period of our growth when we must reach out for that, which under all rules of right and justice, must be considered our due. The medical profession is great enough to secure the passage of just laws, if you will only make up your mind that it is an individual as well as a collective work by the members of this society. We must get into practical politics. In addition to a new law for the Board of Medical Examiners, we particularly need a new State Board of Health law.

A great deal of interest has been manifested throughout the state during the past year in preventive medicine. The work

of the Anti-Tuberculosis Society and the Public Health League is to be especially commended and such work can not fail to impress the public at large that the medical profession is interested in their welfare other than from a mercenary standpoint. A wide spread interest on the part of the profession generally in work of this kind will do more than any other agency to remove antagonism to needed legislation.

Owen Bill

The Owen Senate Bill 6049, providing for the establishment of a Department of Public Health was heartily endorsed, and representatives in congress were urged to use their best efforts to secure the passage of the bill.

Official Journal

The committee on the publication of a medical journal reported that no feasible plan had been found that would give the association a creditable publication at present, and recommended that action be deferred but that investigations be continued with a view of finding plans by which a state publication can be had that would be a credit to the Association.

Education of Public on Health

The following resolutions were adopted and sent to the Superintendent of Public Instruction:

WHEREAS, Health officers and physicians generally encounter antagonism to the proper enforcement of sanitary laws and regulations, owing to the lack of knowledge in hygienic matters on the part of the laity, and

WHEREAS, Many diseases, in the light of present day scientific knowledge, are often unnecessarily transmitted from one person or place to another, and

WHEREAS, In our opinion the best place to disseminate and popularize the knowledge necessary to prevent preventable disease is the public school; be it

Resolved, That preventable diseases should be taught more extensively in our schools.

Public Health Leagues

The Committee on Public Health reported that public health leagues had been organized in a number of places throughout the state and that there was considerable interest manifested in the discussion of tuberculosis, water supply and typhoid fever, sanitation with special reference to water and milk supplies, contagious diseases, insects as carriers of disease, the importance of having a clean city, medical inspection of school children, scarlet fever, the visiting nurses, etc.

Serum Disease or Serum Anaphylaxis

DR. G. F. RUEDIGER, University: Serum disease, as manifested in man, and serum anaphylaxis observed in experimented animals seem to be one and the same reaction. The intensity of the reaction depends on the sensitivity of the person or animal receiving the injection, on the size of the dose and to some extent on the serum injected. Certain precautions should always be observed in the injection of base serum into man. Where there is a history of asthma or of a previous injection of horse serum, the danger should be explained to the patient and friends. Except in urgent cases, a small quantity, such as 0.5 c.c., should be injected for the initial dose, waiting several hours before a second injection is given. This is to allow the immediate reaction to take place, which, if there will be such a reaction, would be less severe after a small injection than after a large one. After recovering from this reaction more serum can be given with safety. The required amount of antitoxin should always be given in the smallest possible bulk of serum. All the serum required in a case should be given within a short space of time so as not to allow time for hypersensitivity to develop.

Legislative Advances

PROF. E. F. LADD, State Food Commissioner: I believe that through the workings of our food, drug and sanitary laws, something has been accomplished which will be of benefit to preventive medicine, that our people are better nourished now, that flagrant food adulteration is no longer tolerated; that chemical preservatives or germicides are not permitted; that saccharin is not allowed as a sweetening agent in place of sugar; that our meats are no longer embalmed with sulphites or borates; that formaldehyd finds no place in our daily supply of milk; that many badly decomposed products only fit for the crematory are no longer prepared for the table of our laborers; that our beverages are now coming to be more nearly what they are represented to be; that substitution in both imported and domestic drugs is no longer practiced; that drugs must be true to name and of proper strength; that many fake remedies have been exposed and the people shown their true value; that our food supply is better taken care of under our sanitary laws; that food products are not now exposed, unprotected, to the germ-laden dust and filth of the streets; that it is fast becoming a disgrace to tolerate flies where food products are handled and merchants and dealers are protecting their places against the intolerable nuisance of flies, one of the greatest disease distributors of our time. There is no question that cold storage is a most desirable means of preserving for a limited space of time articles of food, but the introduction of cold storage and its monopolization by a few has brought about conditions which may have had an unfavorable influence on the nourishment and health of our people. The use of chemical preservatives in food products is an old question, but nevertheless, it continues to be prominent in the public mind for the reason that there are those who are persistent in using certain classes of chemical preservatives or antiseptics in various food products, while, at the same time, there are others putting up and selling the same class of products without the use of preservatives of any kind. It is now almost universally conceded that the use of formaldehyd is dangerous; that the use of boric acid or hydrofluoric acid is not to be commended; that salicylic acid should be condemned; that sulphurous acid of sulphites should not be used in meats, candies, corn, etc. The general sentiment of those who have studied the matter most thoroughly is that the use of benzoate of soda, sulfurous acid and saccharin is not to be commended and that their use should not be permitted in food products to be used indiscriminately by the general public.

The general consensus of opinion, on the part of the physicians throughout the state, is that preservatives of all classes in food products, beverages, etc., should be discouraged. Drugs differ from food in that drugs and medicines modify some vital action but do not supply food material to sustain that vital action, it is hard to understand how we can endorse the use of drugs in foods and beverages, which drugs are generally employed in medicines. The human body is not a mere machine unacted upon by the material which passes through it. The cells of the human body are living protoplasm, sensitive to the same influences which would destroy the protoplasm of bacteria or micro-organisms. How can we then logically reason that poisons, antiseptics, germicides, which will destroy bacterial protoplasm, shall in no way modify or effect the tissues of the living body, the most highly organized of all protoplasm.

The consensus of opinion of the North Dakota physicians as set forth in Special Bulletin 14 shows that 157 out of the 171 physicians reporting would not allow the use of chemical preservatives such as are named in any article of food; 163 out of the 171 would, under no condition, permit of the use of benzoate of soda in foods which are intended for the use of invalids or infants. In fact, there was only one physician of the 171 who would permit of the use of benzoate of soda in food products unrestricted, and leave it to the public to determine whether or not they desired to purchase the article. Unfortunately, there are found in nearly every large city men who have in some manner secured the degree of M.D. who are either failures in the practice of medicine and so turn to quackery and fraud, or have purposely adopted this easy method of securing money by preying on unfortunate sufferers or on those who are easily misled and made to imagine that every little ache or pain is to be nursed until life to them is almost unbearable. If the medical association of each state had a committee to look after matters of this kind, it would not be long before society would be rid of these despicable specimens of humanity who are bringing discredit on the noblest profession of our fair land.

Other Subjects Discussed

The papers submitted were varied and of scientific value and the topics provoked much discussion which was participated in by many of the practitioners. The discussion of the medical practice act was intensely interesting and while there was divergence of opinion as to how it could best be attained, yet the unanimity in the purpose of getting together to accomplish the end sought was the crowning feature of the debate.

AMERICAN SURGICAL ASSOCIATION

Annual Meeting, held in Washington, D. C., May 3-5, 1910

(Continued from page 47)

Tests to Determine Efficiency of Collateral Circulation Before Attempting Permanent Occlusion of Large Arteries.

The points covered in this paper by Dr. R. Matas, New Orleans, are contained and elaborated on in a paper read in the Section on Surgery of the American Medical Association, and which will be published in THE JOURNAL.

Case of Hepatico-Duodenal Anastomosis

DR. GEORGE EMERSON BREWER, New York: The patient was admitted to the hospital suffering from acute cholecystitis. Following a cholecystectomy, there occurred extensive sloughing of the wound and a complete biliary fistula. At the end of 75 days, as no bile was passing into the bowel, the abdomen was reopened and the fistula followed down to the common hepatic duct. As no trace of a common duct could be found, even after reflecting the duodenum and exposing the head of the pancreas, it was assumed that it had been destroyed by the suppurating process which followed the primary operation. A rubber drainage tube, three inches in length, was introduced into the hepatic duct and also through the duodenum by a stab wound at its upper border, and was secured in these two situations by two purse-string sutures. A mass of omentum was then wrapped around the tube, extending well beyond its introduction in the hepatic duct and duodenum, with a view to create a new common duct, after the manner suggested by Sullivan. The abdominal wound was closed, a small cigarette drain being allowed to remain at its upper angle. From that time no bile appeared in the wound. The bowels moved on the third day as the result of an enema, and the stools contained an abundance of bile. The reconstructed duct continued to functionate until after the man's discharge from the hospital, some four or five weeks after the last operation. Since then he has had two or three attacks of fever, associated with jaundice, which would disappear in two or three days. At the present time he is still jaundiced, although some bile is present in the stools.

DR. ALEXANDER H. FERGUSON, Chicago: Since the observation that if all the bile is directed into the hepatic flexure of the large bowel the patient does not suffer from the lack of bile, I have followed this technic in at least half a dozen cases with extremely gratifying results.

DR. JOSEPH C. BLOODGOOD, Baltimore: I wish to report an anastomosis of the small intestine by opening the transverse colon as in posterior gastroenterostomy, sewing a long loop of the small intestine through the transverse colon, and suturing it to the gall-bladder.

Case of Resection of Pancreas

DR. J. M. T. FINNEY, Baltimore: I wish to record the successful removal of a primary solid tumor of the pancreas. The operation involved the resection of the entire middle portion of the gland, leaving only a small piece of the head and the tail, respectively, and necessitating a reunion of these segments by suture. The statistics of the operation for primary tumor of the pancreas are as follows: Of the 17 cases recorded in the literature 12 occurred in females and 5 in males. Carcinoma occurred 10 times, sarcoma 4, fibroadenoma 2, cystic adenoma once. Of the 17 patients 9 recovered and 8 died. In two instances the pancreas has been reported as having been removed *in toto*. Three times the gland was completely divided into two parts and the remaining portion sutured. All three patients recovered

DISCUSSION

DR. M. L. HARRIS, Chicago: A policeman was shot by a 38-calibre bullet which entered just below the twelfth rib on the left side and was found just beneath the skin a little to the right of the median line between the eighth and ninth ribs. The track of the bullet was from before backward through the right lobe of the liver, the lesser curvature of the stomach, the middle of the pancreas, practically bisecting the organ, and the left kidney. The stomach was sewed up, then the pancreas, and as close an approximation of parts made as possible. Drainage front and back. A fistula resulted, but closed in about three months and the patient fully recovered.

DR. WILLY MEYER, New York: I have had two cases in which the tail of the pancreas was tightly adherent to the existing tumor, and here I put a piece of chromicized gut around it and divided the distal end with the Paquelin cautery. Both patients recovered.

DR. RUDOLPH MATAS, New Orleans: I wish to report a cause of thrombosis of the splenic artery involving the pancreatic arterial supply, causing degeneration of the organ from the head to the tail, associated with multiple tumor formation in the spleen. The spleen and three-quarters of the pancreas were removed and the patient recovered from the operation, dying about three years later from a slow fever.

Congestion of the Lower Lobe of the Right Lung an Early Symptom in Appendicitis

DR. JOHN B. ROBERTS, Philadelphia: There is a possibility of a secondary congestion of the lower part of the right lung in a considerable number of cases of acute appendicitis in its early stages. This condition may be a possible aid in the diagnosis of acute appendicitis when the symptoms of the latter are not yet very definite. Appendicitis, and perhaps other intra-abdominal inflammations, may cause atelactasis of the right lung, or a true congestion, because of the insufficient action of the diaphragm on the right side. The early congestion of the right lung, which is found in the early stages of appendicitis, might also occur from inflammation of the gall-bladder or cellulitis around the upper pole of the kidney.

Vaccine Therapy as an Adjunct to Surgery

DRS. JOHN B. DEAVER, JOHN C. DA COSTA and D. B. PFEIFFER, Philadelphia: In addition to its well-known and satisfactory use in suppurative affections of the skin and other forms of minor chronic infection, this form of treatment has been used as an adjunct in the treatment of more severe surgical infective conditions. Vaccines did not prove of service in three cases of streptococcic septicemia in which the treatment was begun late. Four patients with severe staphylococcic septicemia recovered, improvement in each case beginning with the iniation of the vaccine treatment. Eight patients with severe septic intoxication without demonstrated bacteriemia were treated by drainage and vaccines. Two were *in extremis* when treatment was begun and died shortly afterwards. The remainder recovered. Five of the cases were streptococcic infections.

Improvement was also noted in a miscellaneous group of cases comprising persistent sinuses, cystitis, thrombosis, etc. Not all cases, however, gave a definite response. The dosage varied from 25,000,000 to 750,000,000. The sicker the patient and the less satisfactory the response, the smaller and less frequent should be the dose. Streptococcus also was used in smaller dosage than staphylococcus. Specific vaccine treatment has not proved of benefit in the later stages of streptococcic septicemia. Staphylococcic septicemia has been treated with most favorable results at all stages. Septic intoxications without demonstrated blood invasion in a majority of the cases display general and local improvement under the use of vaccines, if given early; the later the treatment, the less certain and satisfactory the result. Localized and persistent suppurating lesions are sometimes markedly benefited by vaccines. Surgical procedures for the relief of infectious conditions should be reinforced by vaccine treatment, which should be begun as early as is consistent with the case, and preferably by autogenous organisms.

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Therapy by Bacterins and Tuberculins in Mixed Suppurative Bone and Joint Disease

DRS. DEFOREST WILLARD and B. A. THOMAS, Philadelphia: We have now had two years of experience in the treatment by bacterins of tuberculous bone and joint diseases, complicated by mixed pyogenic infections. The feature of the treatment consists in the alternation of bacterin and tuberculin inoculations in the mixed suppurative type of the disease, as spinal caries, tuberculous hip-joint disease, etc. We do not contend that bacterin therapy is a "cure all," nor that when indications for surgical intervention exist, they can be disregarded and active immunization substituted. However, the accessory employment of bacterin and tuberculin in certain cases stimulates the tissue cells of the organism to the production of specific antibodies to assist the bodily defenses in antagonizing and combating the given infections. Bacterins, particularly tuberculin, are invaluable aids in competent hands, and when so treated such patients do better than those treated without bacterins; their detention in the hospital is shortened, and complications, if they occur, are fewer and less severe. Studious observations of the clinical symptomatology have always sufficed to control the treatment, the opsonic index proving not only impractical, but unreliable.

DISCUSSION

DR. J. M. T. FINNEY, Baltimore: In a case of chronic colon bacillus infection of the bladder, after every other method had failed, injections of vaccine were followed by the most astonishing results, the bladder symptoms all practically disappearing.

DR. GEORGE M. STERNBERG, Washington: It is impossible to doubt that vaccine treatment is beneficial in a certain class of cases, but it is difficult to understand why it should be. You have a certain specific microorganism in the blood in large numbers producing toxic products, and why the introduction of a comparatively small number of the same microorganisms under the skin should have such a potent effect in arresting the progress of the disease is inexplicable.

DR. L. L. MCARTHUR, Chicago: Treatment with the autogenous vaccine of the colon bacillus in several cases of essential hemorrhage from the kidney has been productive of a cure, and I consider this a most beneficial treatment in this condition.

DR. JOHN B. MURPHY, Chicago: Essential hemorrhage of the kidney and essential hemorrhage of the uterus occurring in girls under 20 with tuberculous histories respond marvelously to proper dosage with tuberculin. Great assistance is rendered by this treatment in cases of bone tuberculosis. As a stimulant, and as an aid to surgical tuberculosis, I know of nothing so good when the treatment is carefully administered.

DR. JOSEPH A. BLAKE, New York: I have been employing the vaccine treatment in chronic infections and have found the autogenous vaccines of great benefit.

DR. ARTHUR DEAN BEVAN, Chicago: I have been particularly interested in the application of the vaccine treatment to tuberculosis of the kidney and mixed infection of tuberculosis of the colon, and, although I know of patients who under good management with this treatment have gone on to recovery, I know of patients who recovered without the vaccine treatment.

DR. FRANCIS B. HARRINGTON, Boston: I have seen some cases in which autogenous vaccines have been of great benefit, and also some cases in which they were productive of great harm.

DR. HARRY M. SHERMAN, San Francisco: With regard to the vaccine treatment, we have had no success with the streptococcus infection.

DR. EMMET RIXFORD, San Francisco: I wish to mention a patient with tuberculous anal fistula, tuberculosis of the spinal cord, and tuberculosis of the wrist, who under treatment with tuberculin was completely restored to health. It has been two years since the treatment. There is now no sign of tuberculosis, and the patient has gained 40 pounds in weight.

DR. JAMES E. MOORE, Minneapolis: I have been disappointed in the serums for the treatment of acute infections. In tubercular cases I have had better results. It is very essential that these treatments should be carried out only by those who know how to use them.

DR. CHARLES H. MAYO, Rochester: I have had very little experience with the vaccine treatment, but I have had one case of colon bacillus infection of the bladder and kidney in which the autogenous vaccine proved of benefit.

The Etiology of Cancer Based on Clinical Statistics

DR. ISAAC LEVIN, New York: My investigations are based on a clinical study of 4,000 cases of carcinoma and sarcoma collected from several large hospitals in the country. The greater frequency of the disease in women is due to the prevalence of cancer of the uterus and the female breast. The other organs become affected more frequently in men, which fact may be due only to the greater subjection of the latter sex to the different injurious influences of civilized life. Cancer, while considered to be a disease of an advanced age, appears, according to this investigation, to occur in many instances in people who have not yet reached middle age. Child-bearing does not seem to have any direct connection with the causation of cancer. Another point of interest is the fact that American Indians rarely contract the disease. The data on the influence of occupation in the etiology of the disease were very defective and no conclusion could be derived from them. The presence of a preceding local disease in the organ affected with cancer, while of certain importance, cannot be considered as the main etiologic factor. Hereditary disposition does not seem to have an influence on the causation of the disease sufficient to warrant the great dread of the lay public before this hereditary trait. It appears evident that a local trauma or previous disease of the affected organ is of less importance in the causation of cancer than the increased vulnerability and lessened resistance of the organism caused by the ever increasing strain of modern life. This is certainly the only explanation that may be offered for the increasing frequency of the occurrence of cancer in civilized communities.

Review of One Hundred and Twenty Resections of the Rectum for Cancer

DR. WILLIAM J. MAYO, Rochester, Minn.: The ages varied from 27 to 81 years. There were done by the perineal route 38 operations, by the posterior route 56 and by the abdominal route 26 operations. Three deaths occurred from exhaustion more than four weeks after operation, one from pulmonary embolus, and one from apoplexy. The mortality in the whole series of 120 cases was 20.16 per cent. Four patients are alive and well after 5 years; 13, after 4 years; 63, after 2 years; 102, after one year, and 18 out of 82 operated on less than one year ago.

DISCUSSION

DR. ARTHUR DEAN BEVAN, Chicago: After an experience in some 20 cases of the Kraske operation, we do not employ a single ligature. As we come to the tissues on the sides of the incision freeing the rectum, massive 10-inch or 12-inch clamps are put on the tissues. With the employment of these clamps there is less risk of hemorrhage and a greater saving of time than if an attempt is made at ligation.

DR. JOSEPH C. BLOODGOOD, Baltimore: One of my first cases (operation about six years ago) was such that we were able to save 3 inches of the anus and rectum, making a suture of the sigmoid which was brought down, and this patient is well and has perfect function.

DR. ALEXANDER H. FERGUSON, Chicago: In some of these cases I have resorted to the combined operation in two stages to advantage. Open the abdomen, take the proximal end of the bowel, make an artificial anus, invert the distal end into the rectum—that would be one operation; then, when the patient is in good condition, remove the rectum from below, the bowel being already inverted giving ready access to the mass. By the use of clamps without ligatures the operation can be done in a few minutes.

DR. JOSEPH A. BLAKE, New York: I have had more experience with the combined operation than with any other. I

have done 12 consecutive operations without any mortality. The mortality is less, if a permanent colostomy is done.

DR. G. E. ARMSTRONG, Montreal: In the low cases in which the sphincter has been involved I have sometimes succeeded in getting a satisfactory sphincter by bringing the upper ends down through the lower fibers of the gluteus maximus. One patient operated on ten years ago now has perfect control.

Case of Choriocarcinoma Occurring in a Patient with an Infantile Uterus

DR. A. PRIMROSE, Toronto: The tumor removed presented the characteristic elements of a choriocarcinoma with a very large proportion of Langhans' cells showing metaplasia and mitosis. A few isolated masses of the syncytium were also present.

Prognosis and Operative Treatment of Fracture of the Base of the Skull

DR. JOSEPH RANSOHOFF, Cincinnati: Of 190 cases occurring during the last ten years in the Cincinnati Hospital, 124 were fatal. Of 42 patients with non-reacting pupils, 41 died. In 5 years there were 19 operations, trephining or decompressive, with 7 recoveries. There will always be a large mortality connected with basal fractures; death resulting from primary shock, brain laceration or hemorrhage. Thirty-seven per cent. of the fatal cases end within 6 hours or less and 56 per cent. end within 12 hours. It is not probable that the mortality of this class of cases can ever be reduced with or without operation. They are primarily fatal. Twenty-three per cent of the fatal cases end during the second day. They are the cases in which the coma is not profound; in which the pupils are not fixed; in which the breathing is not stertorous and in which there is not complete muscular relaxation. With a slow full pulse and lumbar puncture, indicating hemorrhage and increase of intracranial pressure, a trephining operation is indicated. In the doubtful cases an operation is indicated. In this class of cases, where facilities for the major operation of trephining are not at hand, repeated lumbar puncture should be essayed. This procedure may be destined to take the place of decompressive operations. There is a large group of cases in which there is complete consciousness or in which there is a somnolence or milder degree of coma, and in whom the concomitant symptoms do not indicate a grave intracranial trauma either to the brain or its vessels. The pupils, though uneven, react; involvement of one or more cranial nerves may be evident. The symptoms singly or collectively are not ominous at any time. Eighty per cent. of this class of cases have a tendency to get well with or without operation. The patients should not be operated on unless the symptoms indicate an increase of intracranial pressure from hemorrhage, beginning cerebral edema or distinct localizing (cortical) symptoms. There is a distinct class of cases in which operation is indicated. There are cases which, seemingly not severe in the beginning, grow progressively or suddenly worse, showing signs of increased intracranial pressure. Decompressive operations may save a considerable proportion of them. It has yet to be determined where the trephining should be done to obtain the best results. Since most fractures involve the anterior or the middle fossa, subtemporal trephining is doubtless the procedure oftenest indicated. When, however, an hematoma in the mastoid or occipital region indicates an involvement of the posterior fossa, the operation should be subtentorial. To relieve the subtentorial tension by an opening made in the temporal region is illogical and may be dangerous. I attempted it recently in a cerebellar tumor, the site of which could not be determined. The patient succumbed within two weeks with symptoms of bulbar paralysis.

DR. FRANK E. BUNTS, Cleveland: In an ordinary case of fracture of the base of the skull in which the blood pressure can be obtained, a beginning choked disc and edema and hemorrhage in the brain are detected, the decompression operation should be performed, and in many such cases we may expect altogether beneficial results.

DR. G. E. ARMSTRONG, Montreal: If in these cases the pressure is substantial, as indicated by the respiration, aspiration of the cerebro-spinal canal may prove very injurious.

A Method of Overcoming the Shortening in Old Fractures Treated by the Open Method

DR. EDWARD MARTIN, Philadelphia: The method consists in using a long, strong canvas strip pocketed in the middle and looped at the ends. The bones at the seat of fracture are freed, the pocket is slipped over the proximal end of the distal fragment, the ends of the canvas strip are carried in the long axis of the limb, and in the loops is fixed a cord to which are attached the weights. By thumb pressure the bone is kept from angling out of the wound, and weights up to 100 pounds or even more, are attached to the rope. In from three to five minutes the shortening is overcome. Only those structures which interfere with proper placement are stretched, and this is done so thoroughly that there is but slight tendency to the reproduction of deformity.

DR. RICHARD H. HARTE, Philadelphia: A pulley similar to that used on boats, a double and single pulley, is the best type of extension. These should not be close together, but enough line between them to allow of manipulation of the limb by the operator. After the ends of the bone are exposed, disengage the bands of tissue by the employment of steel elevators. It is important to do as little damage as possible to the tissues. I do not consider silver plates strong enough to hold the bones in position and therefore would always advise the use of a heavy steel plate, such as that suggested by Lane.

DR. ALBERT J. OCHSNER, Chicago: A method which we use almost entirely consists in the slow stretching of the muscles, instead of the rapid stretching, and the only thing that is peculiar about the method is the application of rubber adhesive strips to as high a point above the seat of fracture as is possible. For instance, instead of applying the rubber adhesive up to the fracture, it should be applied over the entire length of the thigh, then, with no more than 24 pounds of weight, we have, in every fracture where there has not been a union, been able to stretch the muscles sufficiently to replace the fractures without making a resection of the ends. In cases in which there is a union in malposition the muscles will stretch to a marked extent. It is important to use two Lane plates with two screws at each end in order to keep the bones from slipping.

DR. HARRY M. SHERMAN, San Francisco: I use two hanks of yarn applied as perineal straps, the weight coming on the tuberosity of the ischium. On the foot is put another hank of yarn. The pulling on the bones has been measured, and over 200 pounds of weight have been applied in some cases without injury to the ligaments of the ankle or knee, and that is sufficient to pull out any tissue interfering with the approximation of the bones.

Fracture Dislocations of the Os Innominatum

DR. HARRY M. SHERMAN, San Francisco: Simple uncomplicated fracture of the pelvic bones is not of necessity a serious lesion, and healing can be expected in an ordinary way as after a fracture of a bone of an extremity. The really serious lesion is the complication of injuries to the bladder, the intestines or the vascular system. Injuries to the bladder are more likely to occur when the fracture has been due to antero-posterior compressive force. Injuries to the urethra are more apt to occur when the fracture was due to transverse compressive force. The present indications are to open at once the space of Retzius and make a reverse catheterization and perineal section with lateral incisions in the groin and perineum for drainage of all areolar planes. With this technic the mortality should be reduced to about 33 per cent. as against 60 per cent.

DR. ARPAD G. GERSTER, New York: I have had a case of fracture of the female pelvis on the left side in which there was no injury to the urethra, although it was compressed to such an extent by a solid blood clot that retention followed and had to be relieved for 15 or 16 days by the use of the catheter. There was no other injury present and the woman recovered. Another case was one in which there was fatal hemorrhage following fracture of the pelvis. Postmortem revealed extensive laceration of one of the common iliac arteries and subperitoneal hemorrhage.

Momburg's Method of Artificial Anemia by Suprapelvic Constriction

DR. ARPAD G. GERSTER, New York: The method consists in the application of the Esmarch principle to the waist and to the abdominal aorta, which thus, by the superposition of from two to six turns of the elastic cord, is compressed against the lumbar spine. The apprehension that the necessary amount of constriction might damage the gut has not been justified by experience. The interruption of the aortic blood current is regularly followed by a marked rise of the blood pressure and its restoration by a still more marked cardiac depression, which, in patients afflicted with arterio-sclerosis, myocarditis, or even well compensated valvular lesion, may attain alarming proportions. Hence, Momburg's method is not suitable in these cases. In healthy and young individuals, however, its use is free from danger. The method's greatest utility for life-saving has been demonstrated in postpartum hemorrhage, where it affords the advantage of an easy and prompt control of the loss of blood.

DR. JOSEPH RANSOHOFF, Cincinnati: I have seen this method pursued in one case, and in this no ill effects resulted from its employment.

DR. RUDOLPH MATAS, New Orleans: I have pursued some experiments among students with this method, but found that a fair test of it could not be made unless the patient was anesthetized in order to gain complete relaxation. From our very imperfect experiments, however, it was shown that in all weak hearts you are liable to have prompt failure; instead of noting the usual increase in blood pressure, there will be a fall, and this, we feel, indicates an inability on the part of the heart to keep up. I would not advise the use of the Momburg constrictor in any patients suspected of having any cardiac irregularity, but believe it will prove of great benefit in producing artificial anemia in strong, robust individuals without being followed by any ill effects.

Operative Treatment of Tumors of the Hypophysis

DR. A. E. HALSTEAD, Chicago: The routes of approach previously advocated have been the intracranial and the extracranial. I propose what I term the oro-nasal route, which I employed successfully in one case. It is a modification of the infranasal method of approach, but is without the trauma and disfiguration which must follow the König operation.

DISCUSSION

DR. S. J. MIXTER, Boston: I wish to present a case operated on by the route suggested by Kanavel. There was a large cyst in the hypophysis filled with cholesterin and holding about one and a half to two ounces of fluid. The patient made a good recovery after the operation and his vision, which before was extremely poor, has been benefited.

DR. HARVEY CUSHING, Baltimore: The various means of approach to the hypophysis do not make so much difference as does the matter of dealing with the structure when it is brought into view. The growth often becomes malignant, as is true of long-standing trouble with the thyroid, and it is conceivable that it cannot be removed entirely. In fatal cases it has often been found that only a mere fragment of the growth has been taken away. The operation, in the first place, has for its object the relief of pressure; the symptoms can be combated by the mere removal of the lower part of the sella turcica and the splitting of the capsule of the gland.

DR. A. B. KANAVEL, Chicago: Concerning the technical procedure in Dr. Halstead's cases, in the first one particularly, the view could not have been better. The operation was very quickly done, the anterior wall of the sphenoid sinus quickly removed, the bulging sella turcica opened, and a tumor protruding into the sinus was removed without difficulty. In the second case the sella turcica did not bulge into the sinus; it was seen with more difficulty and was arrived at by anatomic deductions. In two cases there was considerable hemorrhage, and I would suggest the elevation of the head during the operation. In the majority of cases it will only be necessary to remove the vomer and the anterior portion of the sphenoid in order to come down on the sella turcica.

Benign Bone Cysts, Osteitis Fibrosa; Giant-Cell Sarcoma and Bone Aneurism of the Long Bones

DR. JOSEPH C. BLOODGOOD, Baltimore: The so-called benign bone cyst may present itself in five forms: First, as a medullary cyst without any definite gross lining; second, as a similar cyst with a definite connective tissue lining which is easily stripped from the bony capsule; third, as a medullary mass of fibrous tissue with a small cyst; fourth, as the same medullary mass of fibrous tissue without any cyst formation; and, fifth, as multiple medullary cysts. Among 89 cases on record 69 belong to the variety of true localized bone cyst or osteitis fibrosa. The other 20 cysts have different etiologic factors; for example, cysts in enchondroma, in pure myxoma, in giant-cell sarcoma, in osteitis deformans; cysts due to subperiosteal ossifying hematoma, and callous cysts. The so-called bone aneurism is a much less frequent tumor and is distinctly malignant. It is a hematoma due to hemorrhage in the most malignant form of medullary, spindle, round or mixed-cell sarcoma, and I am of the opinion that in this stage of this tumor metastasis has already taken place, so that no harm could come from mistaking such a tumor for a bone cyst or giant-cell sarcoma. I have seen three cases, one of which was not saved by the highest amputation; in the second case amputation was refused; the third case was first treated as a bone cyst; amputation was done later, but the patient died of metastasis.

DISCUSSION

DR. RUDOLPH MATAS, New Orleans: In one case in which, after removal of a giant-cell sarcoma from the humerus, there was a large cavity, I used about an ounce and a half of Mosetig cement, and the patient later developed extreme symptoms of iodoform poisoning from which he recovered in 10 days and the arm healed with a perfect contour of the bone. I believe that in the bismuth paste we have a most valuable means of filling up cavities.

DR. WILLIAM L. RODMAN, Philadelphia: I recall a case operated on in 1889 for large giant-cell sarcoma of the lower jaw by free chiseling and curettement, but without removal of the maxilla. The patient lived for more than ten years after this operation, and may be alive to-day.

DR. JOSEPH A. BLAKE, New York: I had a case of sarcoma of the fourth finger. A simple operation in this case proved most satisfactory, and now, three years since operation, there is a normal phalanx.

DR. HARRY M. SHERMAN, San Francisco: In my experience salt solution poured into these cavities a little in excess just before the last stitches are taken is as good as any other material for filling. It is replaced by blood and obviates the necessity of putting in any foreign body.

DR. DUDLEY P. ALLEN, Cleveland: Some years ago I removed the lower jaw of a patient for giant-cell sarcoma, leaving but a small portion of the substance of the jaw. I used a splint to hold the teeth in place. The patient recovered entirely and is now well.

DR. WILLIAM S. HALSTED, Baltimore: In a case of myxoma of the humerus, although the disease involved the bone from one end to the other, there was no cyst and no fibrous tissue. The bone was excised four years ago excepting for a strip posteriorly and at the lower end, and the entire cavity carefully swabbed out with phenol. The patient made a good recovery and had a strong humerus, but there were implantation recurrences in the soft parts on two occasions. The patient is now perfectly well.

DR. NATHAN JACOBSON, Syracuse: I recall a case of giant-cell sarcoma of the jaw in which I did a partial excision of the upper jaw for giant-cell sarcoma about 25 years ago. The patient is still living. There was never any recurrence. In my experience in those cases of giant-cell sarcoma where there is reasonable cleaning out there is seldom a recurrence of the growth.

DR. A. VON EISELSBERG, Vienna: In such cases as these we are in the habit, before finishing the operation, of pouring boiling water into the wound in order to destroy all the germs, and have found it a most satisfactory method.

Diagnosis and Surgical Treatment of Esophageal Diverticula

DR. CHARLES H. MAYO, Rochester, Minn.: Most cases of esophageal diverticula are pharyngo-esophageal. The condition is confined to adults. Dysphagia is the most common symptom; cough and dyspnea are common. Distended sacs are often visible in the neck and can be emptied by pressure. The condition is disclosed by probing and by radiograph of the bismuth-distended sac. H. S. Plummer's method of diagnosis is a combination of the technic of Mixter and Dunham, as used in stricture. The patient swallows a silk thread which passes into the intestine. The Plummer perforated acorn probe passed on the thread gives the depth of the pocket and location of its neck. Gastrostomy for temporary feeding may be necessary. Operation is by lateral oblique incision; blunt dissection; exposure of sac and excision; closure by suture; rubber tissue drain. There have been 8 patients in the Rochester clinic; 6 operated on successfully and 2 not operated on.

DISCUSSION

DR. SAMUEL J. MIXTER, Boston: I have operated in 3 cases of esophageal diverticula. When operation is not done, by the passage of very large bougies or probangs by means of a string guide a sufficient dilatation of the spur can be caused to allow the passage of food sufficient to keep the patient alive. I have about half a dozen such cases now.

DR. GEORGE W. CRILE, Cleveland: I wish to record two cases of operation for esophageal diverticula, in both of which recovery resulted.

DR. JOHN B. MURPHY, Chicago: The enucleation of the sacs of diverticula is not a difficult matter in itself, but it leaves a large cavity, and it is difficult to avoid the danger occurring from leakage at the suture, infection from the mouth, and particularly the action of the salivary glands on the loose connective tissue of the mediastinum. I believe not opening the sac at all is the only safe procedure.

DR. GEORGE E. BREWER, New York: The presence frequently during the day of an accumulation of thick, tenacious mucus which the patient will regurgitate to get relief is a characteristic symptom of esophageal diverticula. My own experience has been limited to 3 cases and one operation, on a woman, 80 years of age, who had lost 50 pounds through starvation. She made a perfectly good recovery from the operation.

DR. ALBERT VANDER VEER, Albany: I would refer to two cases of esophageal diverticula, one in a physician who refused to have an instrument passed and who subsequently died of an acute pneumonia; the other occurring in a woman, about 50 years of age, in whom it was impossible to get into the stomach with any form of instrument, and I therefore did a gastrostomy. The patient made a splendid recovery. She now alternates between tube feeding and the natural method.

Some Observations Regarding Thoracic Surgery on Human Beings

DR. WILLY MEYER, New York: I have operated in 10 cases with the help of my differential pressure apparatus for affections of the pleura, lung and esophagus. In the case of two young patients, 6 and 11 years old respectively, who had suffered for years from bronchiectatic abscess symptoms, and were bad risks, I extirpated a lobe of the lung in each case, but neither recovered. Three times exploratory thoracotomy was done for cancer of the esophagus with recovery. In order to do good surgical work when operating for a malignant stricture of the esophagus, I have found it necessary to get the scapula out of the way and, therefore, propose as a preliminary operation the Schede-Friedrich flap operation, by which the entire shoulder girdle is turned up, thus permitting the surgeon to make his incision into the thoracic cavity wherever required; often two incisions are necessary.

The only hope of operative success in cases of esophagus cancer lies in early operation, certainly before the intimately adjacent pneumogastric branches are involved, and the first step of such operation should be to free these nerves. Their involvement will more or less decide the operability or inoperability of the given cases. Up to the present time resection of the esophagus has a mortality of 100 per cent.

End-to-End Intestinal Anastomosis by the Invagination Method

DR. C. L. GIBSON, New York: End-to-end intestinal anastomosis by telescoping one segment into the other has been practiced from time immemorial, but at present has no recognized position in surgery. As a result of animal experiments and five successful cases I believe that with my present technic it furnishes a method for which there is a demand, particularly in the surgery of the lower end of the colon. The technic is as follows: The upper cut edge of the gut is seized with two Kocher clamps and introduced into the lumen of the lower end and maintained there by an assistant. The extent to which it is feasible to accomplish this invagination will vary. The gut is rotated about a quarter circle so that the non-peritoneal covered surfaces do not entirely approximate in the circumference. Eight to twelve interrupted silk sutures are introduced thus. A Lambert suture is begun on the lower segment, the needle issuing just short of the cut edge, on the upper segment the needle is introduced just above the line where the cut edge of the lower segment lies against the intact wall of the upper. When the knot is tied the free cut edge has been turned inward, and only the peritoneal surfaces are in contact. A continuous running suture is applied over this area further invaginating the first ones, the Kocher clamps being previously withdrawn.

DR. CHARLES H. MAYO, Rochester, Minn.: The invagination method is a good one in the removal of tumors low in the sigmoid, at the upper rectum; in fact, it is about the only way you can get a union, to invaginate the upper end into the lower.

Abnormal Position of the Duodenum

DR. G. E. ARMSTRONG, Montreal: In the anomaly reported the duodenum ran to the right and then turned downward external to the hepatic flexure, ascending colon and cecum, and, merging into the jejunum, passed from without inward below the cecum into the small intestine area. The duodenum was completely surrounded by peritoneum. It had a long mesentery throughout and could easily be held two or three inches in front of the abdominal wall. The head of the pancreas, closely applied to the duodenum, was visible and palpable between the layers of the duodenal mesentery, and readily followed the duodenum when the latter was brought outside the body. There was no ligament of Treitz and no fossa duodeno-jejunalis. The condition is clearly one of arrested development. The cecum in this case did not mount upwards to the lower hypochondrium and did not pass in front of the loop of the duodenum. The cecum did not descend to its usual final resting place in the right iliac fossa. It was high, completely surrounded by peritoneum, very movable, and could be brought out through the epigastric incision and held eight inches in front of the body.

DISCUSSION

DR. MAURICE H. RICHARDSON, Boston: I have observed a case in which the appendix, the gall-bladder, the liver and the ileocecal valve were on the left side, the spleen on the right side, and the heart on the right side.

DR. EMMET RIXFORD, San Francico: I would put on record a case of failure of rotation of the primary intestine.

DR. LEONARD FREEMAN, Denver: I had a case in which acute dilatation of the stomach followed an unimportant pelvic operation, and which at autopsy showed the duodenum passing directly beneath the liver and firmly attached to the posterior abdominal wall and around the right side as far as the hepatic flexure of the colon.

DR. JOSEPH A. BLAKE, New York: I have met with two cases of abdominal position of the duodenum.

DR. ALEXANDER PRIMROSE, Toronto: I would emphasize the fact that these conditions of abnormality in the position of the duodenum may occur without giving rise to the slightest symptoms.

DR. JOSEPH C. BLOODGOOD, Baltimore: I would record one other anomaly of the intestinal tract which I think must be very unusual, namely, absence of the appendix.

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Medicolegal

Violation of Medical Practice Act by "Doctor of Vital Science"

The Supreme Court of Iowa says, in State vs. Adkins (124 N. W. R. 627), that, prior to having attained his majority, the accused had led a bucolic life, and thereupon entered a "college of psychic-sareology" in Missouri. Three years were devoted to the study of psychology, neurology, hygiene, dietetics, biology, anatomy, diagnosis, and actual practice. Having passed an examination on all branches appertaining to the science of "vital healing" he was granted a "diploma," and the degree of "doctor of vital science" conferred on him. Equipped with "all the rights and privileges pertaining to said degree," he returned to his father's house with the benevolent design of curing "all diseases without drugs, medicines, or surgical operations."

Quite naturally he first directed his attention to the appendix, insisting that "no part of the body is useless, but it takes all and every part to make up the perfect machine." In the local newspaper he wrote eloquently of the wrongs perpetrated by modern surgery, and directed attention to his "own peculiar methods" of healing by "natural laws." "When people learn," he said, "what appendicitis really is, they will understand that the removal of the vermiform appendix by a surgical operation is a crime against Nature. Then surgical operations will be abandoned and rank thereafter as a cruel and barbarous practice—the outgrowth of ignorance and stupidity. . . . Appendicitis as well as most every kind of disease yields very readily to the vital science treatment, which . . . is applied by Dr. L. M. Adkins' own peculiar methods and there are evidences of remarkable cures. For testimonials and other information call on or address Dr. Adkins," etc.

Later on, in sympathetic exaggeration, he again undertook to turn people from the surgeon's knife to "vital science institute . . . where all manner of diseases are treated successfully. . . . Surgical operations to remove the appendix have been a costly experiment to humanity. Not only has the sufferer been subject to the torture of the surgeon's knife, from which many never recover, but, should life be continued, a recent discovery of medical experts shows that eighty per cent. of those who survive the operation for appendicitis afterwards go hopelessly insane. This hitherto unthoughtof calamity will bring sorrow and regret to the homes of thousands of the survivors of this terrible operation. While people are suffering and dying with appendicitis, the news is being carried to all parts of the country of the new method known as vital science, which cures appendicitis in almost every case. This method of treatment uses neither drugs nor surgical operations, but is in perfect harmony with Nature's laws. There is a place in this city where the vital science treatment is given, known as the vital science institute, where all manner of diseases are treated successfully. For further information call on or write Dr. L. M. Adkins," etc.

He testified that he had treated several patients, and thus described his method: "Our system of treatment is by manipulation, stimulating the nerve centers so as to increase their vital force, the action of the blood and also the action of the muscles and all of the organs of the body, stimulating them up to their normal action by physical contact."

Enough has been said to indicate that the young man, even though a genius in the healing art, both publicly professed and undertook to heal and cure the afflicted, and, as this was without first having procured a license from the state board of medical examiners, he was rightly convicted of practicing without a license; and the judgment is affirmed.

Essential to Charge of Unlawfully Issuing Prescription for Liquors

The Kansas City Court of Appeals says that the case of State vs. Hume (124 S. W. R. 1099) was begun by an information charging the defendant, a physician, with unlawfully issuing a prescription for intoxicating liquors, in violation of Section 3050 of the Revised Statutes of Missouri of 1899, but that the conviction was not warranted. No offense was charged in the information. The innocence of the defendant should have been negatived. The charge was so framed that while it charged the intoxicating liquor was to be used as a beverage, and not a medicine, by the man who obtained the prescription, it did not connect the defendant with a knowledge of that fact, or with a purpose or intent of its being so used. If an indictment should charge that a physician issued a prescription to a person for intoxicating liquor "to be used" as a beverage, it might very well be said, thus closely connected, that that was charging that the physician issued it for the purpose of its being used to get the liquor as a beverage. But here the matter of the charge of issuing the prescription was so disconnected from the use to which the liquor was to be put by the party obtaining it that, while the latter was well charged with the unlawful and guilty knowledge and intent, the physician was not included with him. As was said in another case, on the same subject, a distinction is observed and must be taken by the court in administering the statute's provisions, between the contemplated use of the prescription and the contemplated use of the liquor after it is procured.

Ancestral and Personal Disabilities No Defense to Crime

The Court of Appeals of New York says, in the homicide case of People vs. Coleman (91 N. E. R. 368), that certain affidavits, briefly summarized, indicated that the defendant had been a backward, sickly child, somewhat weak-minded and morose, given to occasional periods of religious exaltation, suffering much from indigestion and headaches, and predisposed to pulmonary troubles; that his father was a dyspeptic; that there was tuberculosis in his mother's family; that his sister died of that disease; that his great-grandmother was insane; that a paternal aunt had violent hallucinations; and that an uncle was a religious fanatic. But all these things might be true without connecting the defendant with any taint of insanity or defect of reason that rendered him legally irresponsible for his acts. Few human beings are physically or mentally perfect. A large percentage of the human race are the victims rather than the beneficiaries of their heredity. If there were no physical and mental defectives, there would probably be no crime. Such a family history as was ascribed to the defendant is not uncommon in criminal annals. There was an utter absence of evidence tending to show with reasonable certainty that the defendant at the time he killed his wife labored under any defect of reason which rendered him incapable of knowing the nature and quality of his act or of knowing that it was wrong. Measured by that legal test, the evidence submitted on the motion for a new trial was insufficient and the application was properly denied.

Waiver of Privilege as to One Physician a Waiver as to All

The Kansas City Court of Appeals says, in the personal injury case of O'Brien vs. Western Implement Manufacturing Co. (125 S. W. R., 804), that the plaintiff had two physicians attending his injuries, one of whom he introduced as a witness, who testified as to such injuries. The defendant called the other physician, and offered to prove by him the condition of the plaintiff's injuries at the time. On objection by the plaintiff, the witness was excused on the ground of his incompetency. This was error. Having introduced one of his physicians to prove the condition of his injuries, the plaintiff waived the privilege of the statute. It is universally held that this, being a personal privilege, may be waived. In Elliott vs. Kansas City, 198 Mo., 593, the court in passing on the question held that, where the privilege of the statute had once been waived, the waiver could not be withdrawn. The plaintiff's assumption was that, notwithstanding the privilege was withdrawn by the introduction of one of his physicians, it was not waived as to the other. His position was not tenable. In the above case the court quotes with approval the holding in Morris vs. Railroad, 148 N. Y., 92. It is there said: "When a waiver is once made, it is general, and not special, and its effect cannot properly be limited to a particular purpose or a particular person. After the information has once been made public, no further injury can be inflicted on the rights and interests of the patient, as the statute was intended to protect, by its repetition at another time or by another person."

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

NOTE.—In the *Boston Medical and Surgical Journal*, June 2, appeared an article on "Therapeutic Value of Lactic Acid Bacteria," by Dr. L. S. Medalia, which was abstracted in THE JOURNAL, June 18, 1910, p. 2095, No. 12, and was credited to Dr. Gilpatrick, whose article on "Gangrene Due to *Bacillus Aerogenes Capsulatus*" also appeared in the *Boston Medical and Surgical Journal*, June 2, but was not abstracted.

New York Medical Journal

June 25

1 Etiology and Symptomatology of Infantile Scurvy. J. P. C. Griffith, Philadelphia.
2 Pathology of Infantile Scurvy. C. A. Fife, Philadelphia.
3 Treatment of Infantile Scurvy. M. Ostheimer, Philadelphia.
4 Prognosis and Differential Diagnosis of Infantile Scurvy. T. LeBoutellier, Philadelphia.
5. Death by Lightning. J. Knott, Dublin, Ireland.
6 Roentgen Therapy in Gynecology. M. W. Griscom and G. E. Pfahler, Philadelphia.
7 A Clinician's Attitude Toward the Revision of the Pharmacopeia. W. Coleman, New York.
8 *Pharmacopeia Revision from the Standpoint of the Medical Teacher of Drugs. W. A. Bastedo, New York.
9 Physicians in Fiction. C. D. Spivak, Denver.

8. **Pharmacopeia Revision.**—From the point of view of the medical teachers of drugs, according to Bastedo, a large and comprehensive pharmacopeia is not of necessity a disadvantage, and, by allowing for diversity of opinion, may be an advantage. Medical teachers have a deep interest in the formulation of principles to govern the selection and standardization of preparations and their doses. For the revision, Bastedo suggests as desirable for teaching purposes the omission of confusing duplicates, and of crude commercial substances for internal use whose preparations are made of some different form of the drug; the simplification of mixed remedies; the standardization of doses of potent preparations strictly in accordance with the amount of drug represented; and, where practicable, uniform percentage strengths for all potent preparations of a given class. Further, the teachers would desire the addition of the genitive ending of the Latin name of each drug and the accusative ending for names of prepared objects, such as compound cathartic pills; also with each drug a list of its pharmacopeial preparations with their strengths.

It will be agreed, he says, that, for medical teaching, which must of necessity be in advance of the practice of the main body of the profession, the selection of drugs should be based on reliable pharmacologic and clinical data regardless of the extent of their use. But for a working formulary and book of standards, such as the pharmacopeia, the selection should be based on the extent of use as indicated by the prescriptions of practitioners in all parts of the country. The dropping from use of the inferior substances will depend largely on the establishment of more uniform and more scientific teaching.

Medical Record, New York

June 18

10 Placenta Prævia. E. P. Davis, Philadelphia.
11 *Deep Perineural Injections for the Relief of Trifacial Neuralgia and Sciatica. D'O. Hecht, Chicago.
12 Immunity in Tuberculosis Considered from Both the Experimental and Clinical Standpoint. F. M. Pottenger, Monrovia, Cal.
13 *Unusual Complications Occurring in Three Cases of Rhizomelic Spondylosis. E. M. Williams, Philadelphia.
14 Ileus Following Laparotomy. A. H. Levings, Milwaukee.
15 *The More Liberal Diet in Typhoid Fever. T. A. Claytor, Washington, D. C.
16 The Dowd Phosphatometer. J. H. Dowd, Buffalo.

June 25

17 *The Function of the Corpus Luteum, the Experimental Production of the Maternal Placenta and the Mechanism of the Sexual Cycle in the Female Organism. L. Loeb, Philadelphia.
18 The Affections Clinically Simulating Typhoid, with Special Reference to Brill's Disease. H. F. L. Ziegel, New York.
19 *Amebiasis with Report of Forty-two Cases. W. Allen, Charlotte, N. C.
20 The Care of the Mammary Glands, Before, During and after the Puerperium. J. H. Tebbetts, Hollister, Cal.
21 Proctitis as a Cause of Hemorrhoids. M. L. Bodkin, Brooklyn.
22 Dextrocardia. G. Richter and C. H. Weinsberg, St. Louis.

11. **Perineural Injections for Trifacial Neuralgia and Sciatica.**—Hecht has treated 60 cases of trifacial neuralgia by deep injections of alcohol, 70 to 90 per cent with success. A total of 180 injections was given, an average of 3¼ injections, to subdue pain. Thirty-seven patients were distinctly benefited; eleven were improved; eight unimproved; four were aggravated. One patient was free from pain for a year and eight months; the shortest interval of freedom from pain was 2 weeks; several were free from pain for a year. If reinjected, pain was again subdued.

13. **Rhizomelic Spondylosis.**—Williams gives the histories of three cases of rhizomelic spondylosis in which there were great weakness of the muscles of both legs, with permanent unilateral toe-drop, sensory changes resembling those found in syringomyelia, and an unusual form of vertebral exostosis. A fact of importance is intermittence of the joint affections, they becoming almost well at times, and later being again involved.

15. **Typhoid Fever.**—Claytor pleads for a more liberal diet in typhoid. His patients are far more comfortable, not having that ravenous hunger that patients have when fed entirely on liquids, are not so profoundly nervous, and are better nourished. Neither hemorrhage nor perforation is more frequent than among those kept on liquids, and delirium is less pronounced. Convalescence is more rapid, and the patients return to a good general condition and a normal physical and mental state far more rapidly. The diet should be such as to keep up the body equilibrium as much as possible; it should be easily digestible, innocuous and palatable. Claytor allows soft-boiled eggs, scraped meat, rice, scraped apple, custard, etc.

17. **Function of the Corpus Luteum.**—The principal features in the sexual cycle Loeb believes to be as follows: At a certain period the animal enters the period of heat; a few ovarian follicles rupture and become transformed into corpora lutea. In the early stages of their life, the corpora lutea constitute one of the factors initiating growth processes in the uterine mucosa by means of an internal secretion. If no pregnancy takes place, these proliferative phenomena are slight. If pregnancy does take place, the ovum adds a mechanical stimulus to the sensitizing action of the corpus luteum and a maternal placenta is produced. The ovum can be substituted by an indifferent foreign body. Within a few days this receptive period of the uterine mucosa is followed by a refractory period, in which the uterus no longer reacts to mechanical stimuli, notwithstanding the functionating of the corpus luteum. In this period the corpus luteum exerts a new function, it prevents the rupture of new follicles and prolongs artificially the period of the sexual cycle. During pregnancy some factor extends the life of the corpus luteum, and the period of the nonrupture of follicles is thus prolonged. At the end of the pregnancy, the corpus luteum degenerates, new follicles rupture, and a new cycle begins; the pregnancy as such does not, however, prevent a new rupture of follicles. If no pregnancy is present the factor that prolongs the life of the corpus luteum is absent. The corpus luteum degenerates much earlier and permits new follicles to rupture. The changes in the corpus luteum and in the uterus are accompanied by rhythmic changes in the ovarian follicles. The conception of this mechanism is not hypothetical, but rests on a secure foundation of experimentally established facts.

19. **Amebiasis.**—Of the 42 patients seen by Allen since April, 1908, 12 died, a fatality of 28 per cent.; 16 of the 42 gave no history of frequency of the bowel movements; 10 out of 16 had bald tongue, which Allen believes to be indistinguishable from that of pellagra. Of 25 cases in which the hemoglobin was estimated, in 6 it was about 80 per cent., and in 19 below 80 per cent.; in 1 the hemoglobin was below 10 per cent. In making a routine blood examination the presence of a moderate eosinophilia has repeatedly directed Allen's attention to the intestinal tract, with the result that amebas were found in the stools. Out of 29 cases in which differential counts were made, 14 showed eosinophilia of 5 per cent. or over, 2 between 4 per cent. and 5 per cent., and 11 below 4 per cent.; one case complicated by *Ascaris lumbricoides* showed 17 per cent.,

and one complicated by hookworms showed 5.2 per cent. In 1 case of combined amebiasis and ankylostomiasis the removal of the hook worms caused the eosinophilia to drop from 10 per cent. to 5 per cent. in 8 months. This leads Allen to believe that a moderate increase in the eosinophils will be found in over 50 per cent. of patients, if not less than 500 white cells be counted.

Since amebas can be grown in alkaline bouillon, the reaction of amebic stools may prove of interest. In 14 cases in which this point was noted, litmus paper showed 10 alkaline, 2 neutral and 2 acid; unfortunately, these acid stools were not tested with phenolphthalein. In this connection it is interesting to note that out of 35 cases *Trichomonas vaginalis* was present in 19 patients. In three patients a diagnosis of abscess of the liver was made; two of these left the hospital within 24 hours and were lost sight of; the third patient showed abscess at autopsy.

Although all known methods of treatment were tried by Allen, he is confident that not a single permanent cure has been effected. Hence, he concludes that treatment has been radically defective, or that the medical treatment of amebiasis is only palliative, and can hold out no hope of a permanent cure.

Boston Medical and Surgical Journal

June 23

23 *Dyspepsia and Indigestion Viewed from a Surgical Standpoint. J. C. Munro, Boston.
24 One Hundred and Seventy-two Patients Treated at the Massachusetts General Hospital for Inguinal Hernia in the Year 1903, with the End Results of the Operations. C. C. Simmons, Boston.
25 Arthrodesis and its Application in Infantile Paralysis of the Foot. W. R. MacAusland and B. E. Wood, Boston.
26 *The Effect of Tobacco on the Ear and Upper Respiratory Tract. H. O. Reik, Baltimore.

23. **Dyspepsia and Indigestion.**—Munro urges the general practitioner to consider the probability of some simple surgical lesion of the abdominal viscera in his cases of persistent recurrent indigestion; that where such a lesion does exist, surgery is the safest and surest means at our disposal to bring about a permanent cure; that his neurotics with indigestion secondary to surgical lesions have the right of relief from their local trouble; that, finally, there is a type of dyspepsia most naturally ascribed to gastroduodenal ulcer, but which is really secondary to an appendicitis and which is curable to a degree not yet definitely determined by a simple appendectomy.

26. **Effect of Tobacco on Ear and Upper Respiratory Tract.**—From such facts as Reik has been able to collect it does not appear, at least it has not been proved, that tobacco causes any definite characteristic lesions of the nose, throat or ear. While it is possible that the excessive use of tobacco may, by indirect action, produce a toxic effect on the olfactory and auditory nerves, with resulting impairment of the sense of smell or of hearing, there is not at the present time any definite laboratory proof for such an opinion, nor is there sufficient clinical evidence to substantiate the belief. The ill-effects of tobacco smoke on existing diseases of the throat, arising from other causes, is established and is the same as would be observed from any other form of irritation.

That gastric and systemic disturbances may arise from excessive use of tobacco, in any of its forms, is unquestioned; the nicotin content of tobacco is a recognized poisonous substance and, in the process of smoking, there are evolved other injurious chemical products. Carbon monoxid is probably a more dangerous and injurious constituent of tobacco smoke than is nicotin, only a very fractional amount of which ever enters the tissues. If there is any more danger to be anticipated from cigarette than from cigar smoking it is to be looked for solely in the inhalation of the smoke; cigarette smoking without inhaling is no more injurious than is pipe or cigar smoking, probably not so much so, unless enormous numbers be smoked.

Lancet-Clinic, Cincinnati

June 18

27 Otitic Meningitis. L. D. Brose, Evansville, Ind.
28 The Trained Anesthetist. M. Porter, Dayton, O.
29 The Relation of Human and Bovine Tuberculosis. P. G. Wooley, Cincinnati.

Northwestern Lancet, Minneapolis

June 15

30 *Tetanus. A. E. Wilcox, Minneapolis.
31 Vaccine Therapy. H. L. Ulrich, Minneapolis.

30. **Tetanus.**—Wilcox emphasizes the importance of regarding a certain class of wounds with suspicion, and the results to be obtained from large, repeated, prophylactic injections of antitetanic serum and the value of intraspinal injections of magnesium sulphate to control the spasms, thereby assisting Nature in eliminating the toxins which have become fixed in the nervous tissues. He holds that the intraneural injection of antitetanic serum deserves a thorough trial in conjunction with the above.

Journal Indiana State Medical Association, Fort Wayne

May

32 *Estivo-Autumnal Malaria. G. D. Marshall, Kokomo.
33 Treatment of Pulmonary Hemorrhage. T. Potter, Indianapolis.
34 One Thousand Obstetrical Cases without a Maternal Death. S. Kennedy, Shelbyville.
35 Sketches of the Medical History of Indiana (continued). G. W. H. Kemper, Muncie.
36 Occipito-Posterior Positions. B. F. Kuhn, Elkhart, Ind.
37 Practical Considerations on the Bacteriology of the Gastro-intestinal Tract. J. P. Simonds, Indianapolis.

32. Abstracted in THE JOURNAL, Oct. 16, 1909, p. 1318.

Archives of Internal Medicine, Chicago

June

38 *Inflammation. E. L. Opie, New York.
39 *Hemoglobin of Colored Laborers in Panama. W. V. Brem and A. H. Zeller, Christobal, Canal Zone, Panama.
40 *Paroxysmal Hemoglobinuria. C. H. Nelson, St. Louis, and O. P. Terry, Lafayette, Ind.
41 *Adams-Stokes' Syndrome, with Complete Heart-block, Without Destruction of the Bundle of His. E. B. Krumbhaar, Philadelphia.
42 *Bone Metabolism, Especially the Pathologic Process, Etiology and Treatment of Osteomalacia. F. H. McCrudden, Boston.
43 *The Symptom-Complex of Acute Posterior Poliomyelitis of the Geniculate, Auditory, Glossopharyngeal and Pneumogastric Ganglia. J. R. Hunt, New York.

38. **Inflammation.**—Inflammation, says Opie, is a process which tends to render harmless an injurious substance; it has its site in the interstitial tissue of the body. This tissue consists of fixed cells and fibrillated substances and is penetrated by closed lymphatic vessels. With inflammation certain cells migrate through the wall of the blood-vessels of the part and enter the spaces within the interstitial tissue. Some of these cells are destroyed; others penetrate the endothelial membrane which forms the lymphatic capillaries and hence are carried by way of lymphatic vessels to the regional lymphatic nodes.

Bacteria and many other injurious substances are attacked and ingested by polynuclear leucocytes. These leucocytes are, in turn, ingested by large mononuclear cells (macrophages) which quickly appear at the site of inflammation. The origin of these mononuclear cells is still undetermined. Ingestion of polynuclear leucocytes and other cellular material is begun at the site of inflammation and completed in the regional lymphatic nodes.

The ability of phagocytic cells to remove injurious material is dependent on the possession of proteolytic enzymes. Peculiar to the polynuclear leucocytes is an enzyme which, like trypsin, exerts its digestive action in an alkaline medium. The serum of the blood contains an antienzyme which restrains the action of this enzyme should it be set free by disintegration of the leucocytes; the action of the enzyme is thus limited to the locality in which it accomplishes its proper function, namely, within the cell. When enzyme is set free in such quantity that it overbalances the antienzyme of the exuded serum, suppuration occurs, for the purulent exudate has in virtue of its unrestrained enzyme acquired the power to soften and erode the adjacent tissues.

The mononuclear phagocytes which appear in the late stages of acute inflammation, the similar cells which appear in the regional lymph-nodes, and the cells of similar structure which constitute the greater part of tuberculous tissue contain an enzyme which, like pepsin, digests in the presence of acid. Such phagocytes are active at the site of inflammation, but their work is completed in the regional lymphatic nodes. Inflammation is the process by means of which cells and serum accumulate about an injurious substance and tend to remove or

destroy it. This process does not include the regenerative changes which replace injured tissue by newly formed parenchymatous elements or by new interstitial tissue.

39. **Hemoglobin of Colored Laborers in Panama.**—Brem and Zeiler found that the average hemoglobin of healthy colored men of the tropics is about 83 to 85 per cent. The average hemoglobin of Barbadian and Jamaican laborers was 72.7 and 73.7 per cent., respectively; that of Martiniquans 55.2 per cent. Of 277 patients, 234, or 84.5 per cent., had malarial fever; 15.5 per cent. had pneumonia, typhoid, dysentery, liver abscess, tuberculosis, nephritis, etc. Uncinariasis was found in 36.1 per cent.; amebiasis in 24.5 per cent. The hemoglobin curve of malarial patients varies inversely with the number of previous attacks of malarial fever until a relative immunity or tolerance for the malarial poison is developed, when a rise of hemoglobin occurs. This rise does not take place in patients infected with uncinaria. Uncinariasis complicating malaria in colored men causes a reduction of hemoglobin, which averages 6 per cent. less than that of uncomplicated malarial infections. The complication causes more than double the proportion of anemic cases. Amebiasis without dysentery does not appreciably affect the hemoglobin curve. Conditions of life on the Isthmus of Panama do not in themselves affect the hemoglobin of colored laborers. Blood destruction is a question of infection only.

40. **Paroxysmal Hemoglobinuria.**—In the case presented by Neilson and Terry any severe chilling of the patient's skin caused a temporary hemoglobinuria, drowsiness, regurgitation of food and other minor symptoms to be mentioned later. The phenomena were produced either by a chilling of the general body surface or, what was more common, by the mere exposure of the hands and face to cold, damp winds, or by the wetting of the feet in cold weather. The phenomena were produced experimentally in the laboratory by dipping the patient's feet in water reduced to a temperature of 9 to 12 C., even when the general room temperature was 27 C. The object of the experiments was to determine the inhibitory effect of calcium chlorid on the hemolysis of red blood corpuscles by the patient's serum. While the authors do not state definitely that calcium chlorid when administered by the mouth does prevent this hemoglobinuria by foot-baths, they claim that in view of the inhibitory effect on hemolysis in the test tube they feel justified in concluding that if sufficient calcium chlorid could be introduced into the blood, and retained, no hemoglobinuria would occur.

41. **Adams-Stokes Syndrome.**—A careful study of a patient for 5 years and subsequent examination of the tissues concerned, convinced Krumbhaar that Adams-Stokes' syndrome and complete heart-block can exist uninterruptedly for years with little or no lesion of the bundle of His. Whether in such cases there is a structural lesion or whether the difficulty is purely functional, has not yet been determined; but it is probable, says Krumbhaar, that there may in some cases be two or more contributing causes, both functional and organic. A possible explanation of the dissociation of auricle and ventricle in the present case may be that following a fibrosis of the sino-auricular bundle of Keith, the two chambers beat with independent rhythm rather than that the impulse was not properly conducted to the ventricle.

42. **Bone Metabolism and Osteomalacia.**—The treatment of osteomalacia, according to McCrudden, depends on the individual case. He regards it as probably useless to resort to castration in a condition of non-puerperal osteomalacia or a very severe case of puerperal osteomalacia, and, in mild cases of puerperal osteomalacia, it is usually needless to resort to this operation. Good hygienic conditions should be relied on to improve a mild case and the patient should be advised concerning the dangers of rapidly occurring pregnancies. The recent results in bringing about artificial menopause by the *x*-rays leads him to suggest that this treatment might be tried instead of the more severe operation in a case in which sterilization seemed advisable.

43. **Herpes Zoster of the Cephalic Extremity.**—Hunt believes that we are justified in isolating a large and varied group of cases, characterized by herpes zoster of the cephalic extremity associated with facial palsy, auditory, glossopharyngeal and pneumogastric symptoms, and in regarding them as constituting a well-defined clinical picture. A number of syndromes are thus united in a symptom-complex, having a common etiology and pathology. He is convinced that cases belonging to this group are of much more frequent occurrence than might be inferred from the study of the literature. The reasons for which are to be found in the smallness and inaccessibility of the eruptive areas, making their detection difficult; or all traces of the eruption may have disappeared before the case comes under observation, when a retrospective diagnosis might be difficult or impossible.

It also seems probable, that some cases which are interpreted as rheumatic palsies of the face, palate and even the larynx, may belong to this group; as well as toxic unilateral palsies of obscure origin.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

May

44 Pathology and Diagnosis of Psychoneurosis. B. Sidis, Portsmouth.
45 Microscopic Crystallization and its Application to Chemistry and Therapeutics. H. J. Novack, Philadelphia.
46 Modern Views on Irregular Heart-beat (concluded). H. Sewell, Denver.
47 General Considerations Regarding the More Common Operations on the Nose and Throat. B. F. Walters, Philadelphia.
48 Can We Estimate the Disability of the Deaf? B. A. Randall, Philadelphia.

Journal of Cutaneous Diseases, New York

June

49 The Study of Elastic Tissue in Epidermolysis Bullosa. M. F. Engman and W. H. Mook, St. Louis.
50 *Meralgia Paresthetica. S. Sherwell, Brooklyn.
51 Syphilis. J. Grindon, St. Louis.

50. **Meralgia Paresthetica.**—For about the last ten years of Sherwell's life, in the outer and lower two-thirds of his left thigh, after strenuous and long-continued exertion, as walking, riding and cycling, there has occurred in the region supplied by the external femoral cutaneous nerve, symptoms which he describes as follows: This region becomes the seat of a variety of perverted sensations, such as tingling, tenseness, or still more acute superficial tearing and darting pain, with numbing of sensation from the femoral exit of the nerve to a point just above the patella; this may be only a dull ache, but is usually more acute. It may begin as a glowing sensation also; the rest of the limb with its cutaneous envelope appears to be entirely normal; these symptoms soon subside on resting—sitting, or, better, lying down, but can be brought on readily by resumption of exertion. The painful sensations are like nothing so much as those of zoster, and it is Sherwell's belief that they are caused by the same mechanical means, viz., pressure on the nerve in its continuity, though probably not from the exudation pressure which occurs in zoster.

Sherwell is a healthy man over 60; so far as he knows he is physically sound and takes pleasure in protracted, and it may well be, extreme exercise of all kinds; the affection seems to be diminishing in intensity; for the last two years it has certainly not been so acute or prolonged. Sherwell has not changed his habits of exercise in the least. He frequently walks 5 miles, or even nearly double that distance, rather than use cars.

His conclusions as to the etiology of this condition are, in brief, these: that the condition comes from a constriction, or pinching, as it were, of the nerve as it passes through the tough fasciæ of a muscular individual; that that and the consequent irritation resulting therefrom, and possibly a transient exudation at the site of the constriction as well, between the sheath and nerve substance proper, causes all the symptoms; a temporary non-essential zoster as it were. The only aiding cause on which he lays any weight is a rheumatic tendency; a condition that may aggravate, as can be rationally concluded. Rest and perhaps slight massage produces rapid, though unfortunately, only temporary relief—not a cure.

Memphis Medical Monthly

May

52 The Army and Navy. G. B. Thornton, Memphis.
53 Intestinal Anastomosis. E. J. Johnson, Yazoo City, Miss.

54 Pus and Crusts in the Nose. W. L. Simpson, Memphis.
55 Hemorrhoids: Local and General Anesthesia: Selection of Methods and Anesthetics. J. L. Jelks, Memphis.
56 Ankylostomiasis, or Uncinariasis. W. T. Pride, Memphis.
57 Imperforate Anus. F. M. Malone, Capleville, Tenn.

Western Medical Review, Omaha

May

58 Some Uses of Thyroid. E. W. Demaree, Roca, Neb.
59 A Few Thoughts on Insanity and Eugenics. J. O. Hoffman, Orleans, Neb.
60 The Influence of the Sphenoidal and Ethmoidal Cells in Diseases of the Eye. J. M. Patton, Omaha, Neb.
61 Syphilis of the Liver: Report of Two Cases Simulating Gallstones. M. J. Ford, Omaha.
62 Eclampsia Infantum. E. E. Cone, Oxford, Neb.

St. Louis Medical Review

May

63 *Carcinoma of the Penis. W. E. Leighton, St. Louis.
64 The Practical Importance of the Wassermann Reaction. J. W. Marchildon, St. Louis.
65 Scheherazade's Doctors. S. H. Brown.

63. Carcinoma of the Penis.—Of the 13 cases reported by Leighton, 7 came to operation; 1 patient was treated by simple amputation; another by amputation at the pubes with removal of the inguinal glands. The remaining five cases were so badly involved that no choice was left to the operator and a complete extirpation of the genitals with a dissection of the groin was made. Of these, one patient, far advanced, died on the fourth day from a pneumonia; another recovered and left the hospital, but a few weeks later suddenly dropped dead; autopsy by the coroner revealed no cause for the death. Another patient operated on four years ago is well and free from symptoms. The remaining two patients are well two years and one year, respectively, after operation.

Northwest Medicine, Seattle

May

66 The Theory of Immunity. F. Hinman, Spokane, Wash.
67 Truss or Operation in Hernia. W. F. Amos, Portland.
68 Acute Angulations and Flexures of the Sigmoid as a Cause of Constipation. W. H. Axtell, Bellingham.
69 Identity of the Criminal Established from Examination of Fatal Bullet. H. Power, Spokane, Wash.
70 Prognosis in Surgery. J. D. Sternberg, Portland, Ore.
71 Treatment of Corneal Ulcers by Suction Hyperemia. C. T. Cooke, Seattle.
72 Tuberculin in the Treatment of Tuberculosis. C. S. Wilson, Tacoma.
73 Pyelitis in Infants. J. B. Manning, Seattle.
74 The Preparation of Macroscopic Specimens in Glycerin Jelly. H. V. Wurdemann, Seattle.

Archives of Diagnosis, New York

April

75 The Study of Tuberculosis. W. Porter, St. Louis.
76 Etiology and Diagnosis of Arteriosclerosis. F. E. Sondern, New York.
77 Significance of Abdominal Pain in Infants and Children. L. Kerr, Brooklyn.
78 Differential Diagnosis of the Spasmodic Respiratory Affections in Early Life. G. R. Pisek, New York.
79 Rectal Palpation in the Diagnosis of Acute Intra-abdominal Disease. G. E. Dickinson, Jersey City, N. J.
80 Diagnosis of Fibrosis Uteri. S. W. Bandler, New York.
81 Prognosis in Tabes Dorsalis. T. A. Williams, Washington, D. C.
82 Multiple Malformations of the Central Nervous System (Porencephaly, Diplomyelia, etc.): Their Interpretation from a Clinical Standpoint. A. Gordon, Philadelphia.
83 Diagnosis of Primary Malignant Disease of the Choroid and the Retina. J. H. Woodward, New York.
84 Diagnostic Errors in Abdominal Surgery. J. H. Carstens, Detroit.
85 Lupus Vulgaris Mistaken for and Treated as Syphilis. G. M. MacKee, New York.
86 Adiposis Dolorosa. J. A. Booth, New York.
87 Total Ophthalmoplegia and Bilateral Facial Palsy. A. E. Eshner, Philadelphia.

Wisconsin Medical Journal, Milwaukee

May

88 Diagnosis and Treatment of Complications of Otitis Media Suppurativa. F. Pfister, Milwaukee.
89 Etiology of Middle Ear Disease. H. B. Hiltz, Milwaukee.
90 The Use of Tuberculin in 30 Patients Treated at the Blue Mound Sanatorium. C. H. Stoddard, Milwaukee.
91 Tetany. A. L. Kastner, Milwaukee.
92 The Nourishment of Patients During Prolonged Illnesses. L. F. Ruschhaupt, Milwaukee.

June

93 *The Importance of a Study of Parasitology. B. M. Allen, Madison.
94 The Practice of Surgery. R. Elmergreen, Milwaukee.
95 The Need of Physical Exercise in the Treatment of Tuberculosis. W. Fletcher, Salem.
96 The Medical Experiences of Benvenuto Cellini. A. W. Myers, Milwaukee.

93. Importance of Parasitology.—The subject of parasitology is one of great importance to medicine. A scientific knowledge of the structure, life history and habits of the parasites is of much value to the practitioner. Allen says that they consider this subject of such importance in Wisconsin that they are now giving at the university a course in medical zoology which deals primarily with the structure, reproduction and life history of parasites infesting man. It also deals with disease carriers, such as mosquitoes, flies and rats, and finally with venomous insects and reptiles.

Cleveland Medical Journal

June

97 Reactions of the Vasomotor Center. T. Sollmann and J. D. Pilcher, Cleveland.
98 Poisoning by Carbon Monoxid. M. Friedrich, Cleveland.
99 Tuberculin in the Diagnosis and Treatment of Surgical Tuberculosis. W. G. Stern, Cleveland.
100 Routine Otoscopy in the Febrile Affections of Infancy and Early Childhood. A. S. Maschke, Cleveland.
101 *Abdominal Section for the Removal of a Gauze Sponge which had Been Left in the Abdominal Cavity for Nine Months. H. Robb, Cleveland.
102 Foreign Body in the Larynx. S. H. Monson, Cleveland.
103 The Coagulation Time of the Blood in Phlegmasia Alba Dolens and its Treatment. P. A. Jacobs, Cleveland.
104 Spinal Anesthesia. M. E. Blahd, Cleveland.
105 What is Orthopedic Surgery? H. O. Feiss, Cleveland.
106 Cervical Rib with Operation. C. A. Hamann, Cleveland.

101. Removal of Gauze Sponge from Abdominal Cavity.—The patient whose case is reported by Robb, complained of dysmenorrhea, menorrhagia and dragging pains in the lower abdomen, with frequent and burning micturition. On bimanual examination an adherent uterus could be made out posteriorly in the pelvis. Both Fallopian tubes and ovaries were enlarged and adherent. An abdominal section was performed. The adherent tubes and ovaries were removed after separation of a considerable number of intestinal and omental adhesions. Both tubes contained pus. During removal of the right tube and ovary the tube ruptured, allowing several drams of a purulent fluid to escape into the pelvic cavity. The pus was caught on a sponge and a couple of narrow gauze sponges were packed about the seat of the ruptured tube. The abdominal cavity was closed without drainage. There was a slight elevation of temperature for two days following the operation. Aside from this, however, the convalescence was uninterrupted. Twenty days after the section the cervix and perineum were repaired. Six weeks after the laparotomy the patient was discharged feeling well in every way.

In February, 1909, a little more than nine months from the time of operation, she was again admitted to the hospital complaining of some distress in the left lower quadrant of the abdomen. On bimanual examination a fluctuant movable mass, about the size of a closed fist, could be made out. Three days later the abdominal cavity was reopened through the line of the previous operation. The mass was found beneath the brim of the pelvis lying to the left of the median line, enveloped in a connective-tissue-like sac, and surrounded by the sigmoid flexure, the omentum, and several coils of the small intestines. During an attempt to separate the intestines from the mass the sac ruptured and a small quantity of purulent looking fluid escaped. At the mouth of the opening in the sac there appeared a whitish substance which proved to be a gauze sponge in a perfect state of preservation.

Old Dominion Medical Monthly, Richmond

May

107 Chorea and Choreiform Movements. C. W. Burr, Philadelphia.
108 Dementia Præcox: Some Neglected Phases. J. K. Hall, Morgantown, N. C.
109 Acute Unilateral Septic Infarct of the Kidney. C. R. Robins, Richmond.
110 Experiences with Placenta Prævia. J. H. Hiden, Pungoteague, Va.
111 Surgery of Infantile Life. S. McGuire, Richmond.
112 The Diagnosis of Typhoid in Children. W. L. Harris, Norfolk, Va.
113 The Uses of Radium in Medicine and Surgery. G. W. Drake, Hollins, Va.

Archives of Ophthalmology, New York

May

114 The Best Methods for the Diagnosis and Treatment of Ocular Tuberculosis. G. S. Derby, Boston.
115 A Stigmometric Card Test for Illiterates. P. Friedenberg, New York.

116 Etiology of Scleritis, Its Treatment and Results with Tuberculin. E. Török, New York.
117 Mydriatics and Miotics in Injuries of the Lens and Following Discission, to Hasten Dissolution and Absorption of the Lens Substance, and to Clear the Pupil Area of Fragments of Opaque Capsule. H. W. Wandless, New York.
118 Crescentic Ulceration of the Cornea, with Comments on the Value of Peroxid of Hydrogen in Their Treatment. J. Dunn, Richmond, Va.

Iowa Medical Journal, Des Moines

May

119 Hygiene and State Medicine. M. L. Turner, Des Moines.
120 Quacks and Nostrums. S. Bailey, Mt. Ayr.
121 *The Movement Against Tuberculosis. J. W. Kime, Fort Dodge.
122 *The Value of Tuberculin in the Treatment of Tuberculosis. F. Albert, Mason City.
123 *Early Diagnosis in Tuberculosis. R. E. Conniff, Sioux City.
124 *The Pathology of Tuberculosis. E. W. Mels, Sioux City.
125 Preventable Blindness in the State of Iowa. H. B. Gratiot, Dubuque.
126 *Fallacies in Preventive Medicine. R. L. Eiker, Leon.
127 Clinical Diagnosis. T. R. Jackson, Albia.

June

128 Abdominal Contusions. L. W. Littig, Iowa City.
129 Tumors of the Female Breast. M. Emmert, Atlantic.
130 The Orthopedic Treatment of Infantile and Cerebral Paralysis. A. Steindler, Des Moines.
131 Blood-Pressure Determinations in Life Insurance Examinations. F. Albert, Mason City.
132 Direct Laryngoscopy: Upper and Lower Bronchoscopy: Esophagoscopy. L. W. Dean, Iowa City.
133 Anatomy of the Tonsil. H. J. H. Hoeve, Des Moines.
134 *A Traumatic Cataract Operation. W. S. Windle, Oskaloosa.
135 The Upper and Lower Motor Neurons in Health and Disease. T. B. Throckmorton, Charlton.
136 Cathartics in Surgical Cases. L. Schooler, Des Moines.

121, 122, 123, 124, 126. Abstracted in THE JOURNAL, July 17, 1910, pp. 229, 230.

134. **A Traumatic Cataract Operation.**—This case proved to be a traumatic extraction of a cataract in capsule, followed by results comparable to those of the Major Smith operation. At the age of 24, the patient received an injury to his right eye from a piece of steel which reduced its vision to 6/200, his left eye, however, remained normal. Three years ago, at the age of 67, while laboring on his farm, he stooped to clean his plow and bumped his left eye against a projecting iron bar. He immediately covered the wounded eye with his handkerchief and sought relief, arriving at Windle's office within half an hour after the accident. On separating the eyelids in the process of examination, a large fragment of the lens was found lodged in the cul-de-sac. A slightly irregular linear wound was observed in the upper, outer portion of the cornea near the limbus, about 8 mm. in length. No lens débris could be discovered remaining in the eye. The corneal chamber was not entirely collapsed. A large fragment of the upper, outer portion of the iris had been torn away, forming a large coloboma; no incarceration of the iris, however, had occurred. Examination by the ophthalmoscope later on revealed clear media, excepting a small fragment of lens-capsule remaining at its lower attachment. Windle claims that this case of traumatic expression of the lens in capsule is a silent yet forcible argument in favor of the Major Smith operation.

Journal Tennessee State Medical Association, Nashville

May

137 *The Higher Mission of the Doctor. J. L. Crook, Jackson.

137. Abstracted in THE JOURNAL, April 3, 1910, p. 1466.

Kansas City Medical Index-Lancet

May

138 The Medical Aspect of Mental Healing. J. Punton, Kansas City.
139 Social Responsibility in Hospital Service. W. T. Cross, Columbia, Mo.
140 Presentation of a Case of Localized Meningitis. F. G. Neff, Kansas City.
141 Differential Points in the Character of the Bone Lesion in Tuberculous and Acute Osteomyelitis, Rachitis and Syphilis. A. E. Horwitz, St. Louis.
142 State Care of Epileptics. M. L. Perry, Parsons, Kan.

Therapeutic Gazette, Detroit

June

143 The Value of Thyroid Extract in Aural Manifestations of Myxedema. S. M. Smith, Philadelphia.
144 Bacterial Vaccines. E. C. L. Miller, Detroit.
145 The Ratio of Blood-Pressure to Pulse-Rate in Croupous Pneumonia from a Diagnostic and Therapeutic Standpoint. H. A. Hare, Philadelphia.
146 *Treatment of Bone Tuberculosis. H. A. Wilson.

146. **Bone Tuberculosis.**—The method that has been resorted to in the Jefferson Hospital out-patient orthopedic department has been fixation to enable weight-bearing by the employment of the plaster-of-Paris bandage; it has the advantage of accurate fit and adaptation to the parts, it cannot be removed by the patient, it is capable of readjustment by replacement, and possesses all of the advantages and none of the disadvantages of similar appliances, whether made of steel or other material. Each individual joint has its peculiar condition requiring adaptation of fixation appliances.

Detroit Medical Journal

May

147 The Treatment of Lobar Pneumonia. C. F. Kuhn, Detroit.
148 Myelogenous Leukemia. C. E. Simpson, Detroit.
149 Random Medical Notes in Europe. G. Dock, New Orleans.
150 Radiography of Fractures. G. C. Chene, Detroit.
151 Need of Anti-tuberculosis Movements. E. B. Pierce, Howell, Mich.

American Journal of Urology, New York

May

152 Suprapubic or Perineal Prostatectomy—Which? F. Krelssl, Chicago.
153 Transplantation of Right Ureter into Appendix. G. L. Eaton, San Francisco.
154 The Treatment of Malignant Disease of the Prostate Gland. J. B. Bissell, New York.
155 Treatment of Malignant Disease of the Bladder. R. H. Greene, New York.
156 Treating Gonorrhea by a New Method. J. B. McNerthney, Tacoma, Washington.

Alabama Medical Journal, Birmingham

May

157 Nutrition in Early Life. F. S. Meara, New York.
158 Medical Association, State of Alabama. W. M. Wilkerson, Montgomery.

Journal Ophthalmology and Oto-Laryngology, Chicago

May

159 Labyrinthine Nystagmus. J. S. DeMuth, Pittsburg, Pa.
160 Trachoma. C. B. Wylie, Chattanooga, Tenn.

Atlanta Journal-Record of Medicine

May

161 Diphtheria and its Relation to the Laboratory. K. R. Collins, Atlanta.
162 Tenotomy. T. Toepel, Atlanta.
163 Acute Infantilism. H. McH. Hull, Atlanta.
164 Hydrophobia, its Prevalence and Prevention. H. R. Slack, Lagrange, Ga.
165 Radium: Its Use in Some Cases. T. E. Oertel, Augusta.
166 Value of Gonococcic Vaccine in the Treatment of Gonorrheal Arthritis. W. L. Champion, Atlanta.
167 Penetrating Wounds of the Chest and Abdomen. C. C. Abell, Texarkana, Tex.
168 An Unusual Case of Pneumonia. J. E. Sommerfield, Atlanta.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet London

June 11

1 The Operative Treatment for Preventing the Destructive Renal Changes in Hydronephrosis and Pyonephrosis. H. Morris.
2 The Physiology of the Human Labyrinth. S. Scott.
3 Ear Ornaments of the Masai and the Natives of Kikuyu. J. Bland-Sutton.
4 Spinal Anesthesia in Infants and Children. H. T. Gray.
5 Papilloma Causing Hydronephrosis in a Horse-Shoe Kidney. J. Morley.
6 Rat-Bite Fever. G. S. Middleton.
7 *Interesting Case of Triplets. G. Aldridge.

7. **Interesting Case of Triplets.**—On examining a primipara aged 28, Aldridge found presenting outside the vulva the foot and leg of a fetus. This he was able to deliver quickly and easily, and found it to be a male mummified fetus of about 6 months' development. On further examination he felt a bag of membranes bulging at the os uteri and the head of a child presenting. The os being fully dilated, Aldridge ruptured the membranes and in about an hour delivered the patient of a living female child of about 8½ months' development. He then placed his hand on the abdomen to express the placenta, and after waiting some time with no result he again examined

the patient. The uterus had contracted firmly, but he could feel through the os the foot of another fetus protruding. This was gripped by the contracted uterus, and the patient, although uneasy, was having no pain. After waiting an hour he examined again and found the os uteri dilating and the leg as well as the foot of a fetus presenting. Gentle traction seemed to bring on pains, and in about 20 minutes he had delivered the woman of another fetus (male, mummified) of about four months' development. The placentæ were removed with difficulty. The two male fetuses were attached to one placenta, while the living child had a separate one. This was apparently a case of two ova, one of them double.

British Medical Journal, London

June 11

8 Pernicious Anemia Having Changes in the Spinal Cord. W. H. White.
9 Subacute Combined Degeneration of the Spinal Cord, Simulating Disseminated Sclerosis. B. Bramwell.
10 The Darran Explosion from a Medical Standpoint. T. L. Llewellyn.
12 *Circular or End-to-End Suturing of Arteries. E. A. Smith.
13 The Mechanical Effects of a Massive Right-sided Pleural Effusion. A. C. Geddes.

12. **End-to-End Suturing of Arteries.**—The method of end-to-end suture of arteries described by Smith is an evolution of the method set forth in his recent book on blood-vessel surgery. The suture material used is silk, for a vessel as large as the human femoral artery, No. 0000; for one the size of the radial about half that thickness. In addition, some fine chromicized catgut, No. 1 or No. 2, according to the size of the vessel, is required. The silk is used from the reel, and it is essential to thread the needle from the convexity of its curve toward the concavity. The catgut should for convenience be in straight lengths, that is, never have been wound on a reel. Smith uses an apparatus for sterilizing silk or catgut by superheated alcohol vapor. The suture method is an adaptation of the quill suture, the quill being represented by the chromic gut. The desideratum is to bring two endothelial surfaces together, yet to have a suture that penetrates every coat of the vessel, but causes a minimum of bare suture material to impinge on the lumen. The method is described fully by the author.

Clinical Journal, London

May 18

14 Tuberculous Disease. F. C. Wallis.
15 Asthma. H. B. Shaw.
16 Pituitary Extract and Some of Its Effects. L. Williams.

Medical Press and Circular, London

May 18

17 Epileptic Manifestations in Childhood. O. Moon.
18 *Tuberous Sclerosis. J. S. Fowler and W. E. C. Dickson.
19 The Ninetieth Birthday of Miss Florence Nightingale. E. S. McKee.
20 The Use of Balsams in the Treatment of Cystitis and Gonorrhea. H. I. Berger.

18. **Tuberous Sclerosis.**—Tuberous sclerosis is a rare developmental disease, interesting pathologically, because of the peculiar association of a characteristic nodular sclerosis of the cerebral cortex, and tumors of the kidney, heart, skin and other tissues. The case Fowler and Dickson record was an infant, aged 1 year, who had apparently developed in a normal fashion. It was suddenly seized with convulsions, lasting for several hours. It was in a semicomatose condition, with slight convulsive movement of the face. Lumbar puncture showed that the cerebrospinal fluid contained 40 lymphocytes per cm. Otherwise the examination was negative. The child remained in an apathetic condition for three weeks without the supervention of any further symptoms, and the cells disappeared from the cerebrospinal fluid. She then developed an empyema, which proved fatal. During the whole of the child's illness her appearance was indicative of cerebral mischief, but the symptoms, though at first suggestive of tuberculous meningitis, were too indefinite to admit of any diagnosis being arrived at.

On post-mortem examination the brain showed numerous haru nodules, mostly in the cerebral cortex, the arrangement of the convolutions of which was not appreciably disturbed, nor was the pia arachnoid adherent over them. These nodules, a dozen or more on each hemisphere, and varying from the size of a pea to that of a small walnut, consisted of neuroglial overgrowth, with corresponding diminution of the nerve elements proper. The surviving nerve cells were increased in size and showed all stages of degeneration and disintegration. Numerous smaller nodules projected into the lateral ventricles. In the right auricular appendix of the heart there were two small nodules of rhadomyoma, the histologic appearances of which corresponded to the classical descriptions of this very rare tumor. No lesions of special importance, apart from empyema, were found in any of the other organs.

Journal Tropical Medicine and Hygiene, London

May 2

21 *Observations on Malaria. G. A. Wolfendale.
22 The Etiology of Zymotic Enteritis. (Epidemic Diarrhea). R. Vincent.

21. **Malaria.**—To prevent mosquitoes from biting, Wolfendale (who lays claim to be one of the first to suggest seriously the mosquito theory of infection) found a phenol lotion, 1 in 60 or 1 in 40, also ol. eucalyptol ℥i to glycerin or olive oil ℥ii, useful applications.

Glasgow Medical Journal

May

23 The Effects of Moderate Doses of Alcohol. W. L. Reid.
24 Symmetric Keratodermia of the Extremities. J. G. Gray.
25 Aplastic Anemia. J. Carslaw and J. S. Dunn.

June

26 Color Perception and Other Visual Functions in Their Practical Aspects. F. Fergus.
27 Myxosarcoma of Upper End of Tibia—Osteomyelitis of Lower End of Tibia. J. G. Andrew.
28 *Epilepsy in Some of Its Gynecologic Aspects. W. J. Rutherfurd.

28. **Epilepsy.**—When between 15 and 16 years of age, Rutherfurd's patient began to menstruate for the first time. For three or four years previous to this she had had a fit at fairly regular four-weekly intervals, without the occurrence at any of these times of any menstrual flow. She had never had fits of any sort before the age of about 12 years, but has had them with regularity ever since. These fits were preceded by a cry and were accompanied by loss of consciousness and biting of the tongue, but never to her knowledge had she lost control of the rectal or vesical sphincter. In such a fit she occasionally fell heavily and sustained injury. At present, unless when held in check by appropriate medicinal measures, the fit occurs with regularity every month about a week before the onset of the menstrual flow, and with the one fit the tendency exhausts itself and does not reassert its presence until a full lunar month has elapsed. For a year or two, however, she had a series of single intermenstrual fits occurring exactly midway between the two periods; this was only at the onset of menstrual life, and she has not exhibited the phenomenon since.

She has now had four children, and always during the amenorrhea of pregnancy and of lactation she has found herself free from the fits, which recurred again and presented all their usual phenomena on her weaning the child. Menstruation has always been regular and absolutely free from pain, and particular inquiry failed to reveal any story of pelvic pain or of blood-stained discharge occurring at the middle of an intermenstrual period at any time in her life. Rutherfurd holds that such cases as these teach us that our conception of what does and what does not constitute *Mittelschmerz* must undergo considerable modification. In this case there was no pain, and apparently no discharge at the mid-interval periods, but their place was taken over a considerable time by recurring explosions of nervous energy of the nature of true epilepsy. The sequence of events as evolved in subsequent years proclaimed the real dependence of such manifestations on the cyclical pelvic changes, and established their claim to be regarded as a form of *dysmenorrhea sine dolore* of the intermenstrual type.

Annales de Gynécologie et d'Obstétrique, Paris

May, XXXVII, No. 5, pp. 257-320

29 *Ligamentopexy in Treatment of Retroversion of the Uterus. (Dénudation des ligaments ronds dans le traitement des rétroversions utérines.) L. Chevrier.
30 Tubal Pregnancy Compelling Hysterectomy. (Grossesses tubaires faisant corps avec la corne utérine et nécessitant l'hystérectomie.) A. Couvelaire and J. Mouchotte.

31 Thrombosis Following Injection of Collargol. (Thrombus vulvo-vaginal survenu au troisième jour des couches peu après une injection intra-veineuse de collargol.) M. Potocki.
32 *Prefetal Dilatation of Vagina in Breech Presentation. C. Sauvage.

29. **Treatment of Retroversion of the Uterus.**—Chevrier prefers the modified Dolêris technic for ligamentopexy and gives ten illustrations of the method, especially of the way in which the finger wrapped in gauze stretches the lips of the incision in the peritoneum, permitting the round ligament to be drawn through and the loop sutured after what he calls median reinforcement.

32. **Stretching the Vagina in Advance of the Fetus with Breech Presentation.**—Sauvage stretches the vagina with the Champetier de Ribes bag to facilitate delivery. In 32 cases it enabled spontaneous delivery in all but four instances. When forceps are required, this preliminary dilatation aids materially; done cautiously it does not harm the mother, while the advantage for the child is beyond question. In primiparæ it generally promotes delivery and seems to reduce by 25 per cent. the mortality of the children while they are in a better condition, not having suffered from the traumatism of compression from the soft parts. He advises it also for shoulder presentation in primiparæ, and in multiparæ if the child is large, and gives the details of 50 cases in which this vaginal prefetal dilatation was applied.

Annales de l'Institut Pasteur, Paris

April, XXIV, No. 4, pp. 241-336

33 *Experimental Research on Exanthematous Typhus. C. Nicolle.
34 Glossina Palpalis and Trypanosoma Cazalboui in Upper Guinea. G. Bouffard.
35 Acetic Aldehyd Not a Normal Product of Alcoholic Fermentation. Trillat and J. P. Sauton.
36 Yeast Fungi in Connection with Acetic Aldehyd in Alcoholic Fermentation. Trillat and J. P. Sauton.
37 Presence and Utility of Boric Acid in Respect to Vegetable Life. (Bore chez les végétaux.) H. Agulphon.
38 Vaccination Against Anthrax. (Sur la vaccination anticharbonneuse par des bacilles très virulents préalablement mélangés dans le bouillon-culture du bacille pyocyanique.) J. D'Agata.

33. **Experimental Research on Typhus.**—The most important results of the research reported are that it proved possible to reproduce typical exanthematous typhus in monkeys; and that the transmission of the disease by the louse that infests human beings was demonstrated.

Annales de Médecine et de Chirurgie Infantiles, Paris

May 15, XIV, No. 10, pp. 321-352

39 Rare Forms of Congenital Hydrocephalus. V. P. Jankovsky.
40 Physiologic Variations in Composition of Milk. (Les variations physiologiques de la composition du lait.) P. Lassablière. Commenced in No. 7.

Bulletin de l'Académie de Médecine, Paris

May 24, LXXVI, No. 20, pp. 535-595

41 Operative Treatment in Mental Disease. (De la méthode chirurgicale en médecine mentale.) Picqué and E. Schwartz.

May 31, No. 21, pp. 595-596

42 Removal of Bullet Loose in Lumbar Spinal Cavity. T. Tuffier and J. Lucas-Championnière.
43 Epidemic Poliomyelitis in France and Elsewhere. (Apparition sous forme épidémique de la paralysie infantile à Paris et sa banlieue en 1909. Notions fournies par l'étude des épidémies des autres pays et par la pathologie expérimentale.) A. Netter.
44 Abortive Local Treatment of Syphilis. H. Hallopeau.

Bulletins de la Société de Pédiatrie, Paris

April, XII, No. 4, pp. 189-245

45 The Acetic-Sublimate Stool Test for Digestive Disturbances. H. Triboulet.
46 Meyer's Phenolphthalein Test in Nephritis. G. Paisseau, L. Tixier, H. Triboulet and C. Périneau.
47 Recovery from and Recurrence of Chorea. H. Triboulet and C. Périneau.
48 *Aggravation of Scoliosis by Exercise. (Les scolioses que la gymnastique aggrave.) M. L. Ombrédanne.
49 Pyloric Spasm in Infants. (Quelques considérations sur le pylorospasme du nourrisson.) H. Dufour.

48. **Form of Scoliosis Aggravated by Exercise.**—Ombrédanne has noticed that when some of the vertebræ have become wedge-shaped so that scoliosis has developed, any attempt to bend the spine forward causes torsion. Scoliosis due merely to muscular insufficiency or deformity of the intervertebral discs, without deformity of the bone, corrects itself as the spine is bent forward, and gymnastic exercise is the most essential factor in treatment. But in scoliosis with wedge-shaped vertebræ, the deformity increases as the spine is bent forward; every such movement aggravates the lesions and deformity and should be strictly forbidden.

Lyon Médical, Lyons

May 8, XLII, No. 19, pp. 989-1029

50 *To Render Dietetic Restrictions Less Onerous. (Gouter sans avaler.) P. Aubert.

May 15, No. 20, pp. 1030-1068

51 Sugars in Infant Feeding. (De l'emploi de lactose et de quelques sucres autres que le lactose dans l'alimentation courante du nourrisson.) M. Péhu and C. Porcher. Commenced in No. 19.

May 22, No. 21, pp. 1069-1108

52 Ligation of Common Carotid. Desgouttes.
53 Technic for Roentgen Ray Diagnosis of Gall-Stones. (La radiographie appliquée à la recherche des calculs biliaires.) F. Arcelin.

50. **Sham Feeding for Diabetics and Others.**—Aubert has found that diabetics and persons requiring a salt-poor diet are able to enjoy the pleasures of the table by apparently eating and chewing the food at will, but expelling it finally from the mouth, not swallowing it. He advises this for a time when such patients seem to feel the necessary dietetic restrictions too keenly.

Presse Médicale, Paris

May 28, XVIII, No. 43, pp. 401-408

54 Modern Diagnostic Methods Applied to a Cancer of the Bronchus and Lung. (Cancer broncho-pulmonaire.) L. Renon, E. Gérardel and L. Murre.
55 Radiography of the Appendix Vermiformis. (Radiographies de l'appendice ileo-cæcal sur le Vivant.) P. Aubourg.

June 1, No. 44, pp. 409-416

56 *Eclampsia and Morphin. J. Rouvier and Laffont.

June 4, No. 45, pp. 417-424

57 Paroxysmal Hemoglobinuria in the Horse Following Chilling. (Hémoglobinurie paroxystique à frigore du cheval.) A. Lucet.
58 *Ptosis of the Cecum. G. Lardennois.
59 Lesions and Pathogenesis of Microcystic Degeneration of the Ovaries. E. Forgue and G. Massabuau.
60 Advantages of Prolonged Anesthesia with Ethyl Chlorid: 75 Cases. M. Boureau.

56. **Eclampsia and Morphin.**—Rouvier and Laffont state that recovery was much more rapid and complete in their cases of eclampsia in which they used morphin, injecting 0.01 gm. at a time, repeated from 3 to 5 times at 3 or 4 hour intervals, supplemented by inhalation of chloroform and copious rinsing out of the stomach and intestine. They give the details of 2 cases, emphasizing the rapid subsidence of coma and the prompt recovery; with other measures the patients were several days recovering complete consciousness.

58. **Ptosis of the Cecum.**—Lardennois remarks that the disturbances from ptosis of the cecum have frequently been erroneously ascribed to wandering kidney, ovarian cysts, tubo-ovarian varicocele, displacement of the uterus, neuralgia or neuropathies, but once suspected the symptomatology is instructive. The pain, oppression and dragging down sensations are below McBurney's point, and the cecum may be felt as a soft, fluctuating tumor; it gives a relatively dull note on percussion during a painful attack, with gurgling sounds as the attack subsides. He adds that the pathognomonic sign is that when the contents of the ascending and transverse colon are pushed back toward the cecum, this causes pain in the right half of the pelvis, while the pain disappears if the contents of the prolapsed cecum are gently worked along from below upward, toward the colon. Dietetic measures, massage and exercise of the abdominal muscles are the main reliance in treatment for the milder forms, and he is convinced that many cases of supposed chronic appendicitis in which a cure was realized by massage and purgatives were in reality merely cases of ptosis of the cecum.

If in operating on an inflamed appendix the cecum is found much over 4 inches long, he advises fastening the cecum to correct any tendency to ptosis later. This should also be advised if the disturbances persist unmodified by medical measures and massage.

Revue de Chirurgie, Paris

May, XXX, No. 5, pp. 751-966

61 *Primary Sarcoma of the Articular Synovial Membranes. F. Lejars and H. Rubens-Duval.
62 *Fatality During Momburg Belt Constriction. (Mort subite au cours de l'hémostase par le procédé de Momburg.) G. Gross and A. Binet.

63 Traumatic Radicular Paralysis of the Brachial Plexus. Vandenbossche.
64 *Continuous Oxygen Irrigation of the Abdomen in Abdominal Surgery. (Emploi du courant continu d'oxygène en chirurgie abdominale.) T. Weiss and L. Sencert. Commenced in No. 4.
65 Operative Treatment of Cancer of the Testicle. M. Chevassu. Commenced in No. 4.

61. Primary Sarcoma of the Articular Synovial Membranes.—The lesion develops very insidiously, it is extremely indolent and does not interfere with the movements of the joint; from 2 to 13 years had elapsed before operative treatment in the 16 cases on record. The results of conservative operations are not encouraging and Lejars deems amputation at once the wiser course or, at least, if the lesion shows signs of recurrence after a primary conservative operation. In the personal case reported and in 13 others the knee was the seat of the growth; in the others the ankle. The patients were between 20 and 40 years old in nearly every case. A history of trauma affecting the joint is mentioned in several instances.

62. Fatality from Momburg Belt Constriction.—In the case reported the rubber tubing was wound around the waist to prevent hemorrhage during disarticulation of the hip for a tuberculous process in knee and hip joint which had much debilitated the patient, a woman of 27, during the last two years. No abnormal sounds were heard over the heart. The constriction was applied very gradually and the operation terminated without mishap. The tubing was then unwound and in about a minute the patient collapsed. Autopsy showed the right heart acutely distended. This was favored by unsuspected fatty degeneration of the heart muscle and old mitral and aortic endocarditis. The case teaches the importance of applying and removing the tubing very slowly and cautiously to avoid sudden changes in the condition of the circulation. Willems has reported a case in which blood issued from mouth and nose during the belt constriction; Guinard, a case of blood-stained sputum; Pieri of intestinal hemorrhage; Kempf of gangrene of the thigh, and de Bovis, a fatality possibly due to the constriction.

64. Continuous Current of Oxygen in Local Treatment of Abdominal Disease.—The first part of Weiss and Sencert's communication was summarized in THE JOURNAL May 28, page 1829. They here give the details of sixteen cases out of a much larger mass of material to show the advantages of continuous irrigation of the interior of the abdomen with a constant flow of oxygen. It has abundantly demonstrated its usefulness, they say, as an aid to drainage, checking or preventing absorption from the abdominal cavity, stimulating peristalsis, especially when combined with proctoclysis, and exerting in general a stimulating action on the cardiovascular apparatus. They urge that it should rank with proctoclysis and lavage of the stomach as a routine measure in prevention and treatment of peritonitis, etc.

Revue de Médecine, Paris

May, XXX, No. 5, pp. 345-448

66 Nature of Osteomalacia. (Ostéopathie myélogène.) L. Bernard.
67 Mediastinal Pleurisy. I. E. Devic and P. Savy.
68 Epidemiologic Study of Acute Poliomyelitis. E. Job and J. Froment.
69 Inherited Syphilis and the Wassermann Reaction. I. Bertin and Gayet.

Berliner klinische Wochenschrift, Berlin

May 23, XLVII, No. 21, pp. 957-1000

70 *General Anesthesia by Means of Meltzer's Continuous Intratracheal Insufflation. C. A. Elsberg and H. Lilienthal.
71 *Modification of Technic for S. J. Meltzer's Method of Intratracheal Insufflation for General Anesthesia. E. Unger and M. Bettmann.
72 Three Cases of Congenital Inherited Paralysis of the Ocular Muscles. (Zur Kenntnis der angeborenen hereditären Augenmuskellähmungen.) H. Gelb and H. v. Voss.
73 Two Cases of Primary Gastric Sarcoma. W. Maschke.
74 Further Experiences with Intramuscular Injections of Menthol-Eucalyptol in Bronchial and Pulmonary Disease. M. Berliner.
75 Congenital Cyanosis in Four Generations. (Morbus coeruleus bei vier Generationen.) O. Burwinkel.
76 Quantitative Determination of Inhibiting Body in the Wassermann Reaction. II. (Quantitative Hemmungskörperbestimmung bei der Wassermann'schen Reaktion.) J. Zeissler.
77 Experimental Research on the Action of Roentgen Rays on Young Cells. (Wirkung kleinerer und grösserer Röntgenstrahlenmengen auf junge Zellen.) H. E. Schmidt.
78 Partial Submucous Pyloroplastics. (Zur extramucösen Pyloroplastik.) W. Kausch.
79 Balneotherapy in Urinary Disease. Wasserthal.

70-71. **General Anesthesia by Intratracheal Insufflation.**—Unger and Bettmann have modified the Meltzer technic for respiration by intratracheal insufflation, the main feature of which is the use of a two-way tube carried down into the trachea to the bifurcation of the bronchi. This ensures constant evacuation of the used air (even without respiratory movements) which is the chief point of superiority of this over other technics for artificial respiration and for inducing differential pressure in the lungs in thoracic surgery. Instead of the apparatus devised by Elsberg for the purpose, they use an ordinary oxygen tank connected by a T-tube with a Wolff flask containing a little ether, the flow of the mixed ether and oxygen being controlled by a valve. Their experiments with it have been encouraging. Elsberg reports two clinical cases in which the method with his apparatus was successfully applied in operative treatment of an abscess in the lung or pleura.

Centralblatt für die Grenzgebiete der Med. und. Chir., Jena

May 19, XIII, No. 8, pp. 289-320

80 *Liver Abscess During or Consecutive to Typhoid. (Ueber Leberabscesse im Verlaufe und Gefolge des Typhus abdominalis.) E. Melchior. Commenced in No. 5.

80. Abscess in the Liver in the Course of or Consecutive to Typhoid.—Melchior critically reviews 94 articles that have appeared on this subject and tabulates the details of 25 cases of solitary abscess in the liver of typhoid origin. The prognosis is unfavorable when the abscess develops from spread of a typhoid cholecystitis or thrombophlebitis. The clinical picture of typhoid appendicitis resembles that of typhoid perforation of the bowel. In 5 cases the typhoid appendicitis was responsible for development of a pylephlebitic liver abscess, all fatal. Appendicitis complicating typhoid should be treated as under other circumstances; after the abscess in the liver has developed it is too late for an operation, as likewise when the abscess is of pyemic origin. With a solitary abscess, prompt operative treatment with ample outlet for the pus is showing constantly better results as the technic is being perfected. In the 12 operative cases all but 2 of the patients recovered, while only 2 recovered out of 9 patients under medical measures alone. Pneumonia in the superior lobe was observed as a complication in one case and severe diarrhea in another, but both patients recovered. The clinical picture of typhoid solitary abscess in the liver opens with high fever and pain in the liver region about two weeks after defervescence in a mild or moderate typhoid, generally in a male patient. In some cases there is a chill; jaundice is still rarer. The liver visibly increases in size and is usually tender. Contrary to what is observed with a pleural effusion, the excursions of the lower margin of the lung are not restricted. Typhoid cholecystitis generally comes on during the febrile phase of the typhoid and it is accompanied by symptoms of circumscribed irritation of the peritoneum, especially rigidity of the muscles over the gall-bladder region. Exploratory puncture may be necessary; no harm resulted in the 8 cases in which it was done. The possibility of an abscess in the liver should be borne in mind when there is a history of a stay in tropical regions. Jaundice, especially when intense, speaks against a solitary abscess, but when the liver symptoms have persisted for two weeks or longer the evidence is in favor of a solitary abscess, as the other forms generally prove fatal before this.

Correspondenz-Blatt für Schweizer Aerzte, Basel

May 10, XL, No. 14, pp. 433-464

81 *Normal Blood Pressure in Children. (Praktische Bemerkungen über den Blutdruck und über Normalwerte des Blutdruckes im Kindesalter.) F. Seiler.

May 20, No. 15, pp. 465-496

82 *Analeptic Action of Alcohol in Pathologic Conditions. E. Alexandroff.

81. The Blood Pressure in Children.—Seiler is convinced that the general practitioner will find the blood pressure an important aid in the diagnosis and prognosis of pathologic conditions in children. He was hampered in his research on the subject by not being able to find any normal standard for the blood pressure in children of different ages and degrees of development, and consequently he has had a table of normal

standards compiled in his service. It represents extensive research and gives the age, the size in centimeters, the weight (with clothing) in kilograms, and the minimal and maximal findings with the Riva-Rocci and the Sahli instruments.

The table states that at the age of 2 and 3, the minimal Riva-Rocci findings range from 70 to 75 and the maximal from 75 to 80; at 4 and 5, minimal from 75 to 85 and maximal from 79 to 90; at 6 and 7, minimal from 72 to 87 and maximal from 85 to 95; at 8 and 9, minimal from 87 to 89 and maximal from 90 to 95; at 10 and 11, minimal from 87 to 90 and maximal from 93 to 96; at 12 and 13, minimal from 84 to 99 and maximal from 94 to 106; at 14 and 15, minimal from 88 to 98 and maximal from 93 to 104; and at 16 and 17, minimal from 95 to 110 and maximal from 103 to 120.

82. **Action of Alcohol During Febrile and Other Pathologic Conditions.**—Alexandroff injected rabbits with diphtheria toxin or other infectious products and followed with injection of alcohol, the results confirming the effect of alcohol as observed in the clinic by Dennig, Hindelang and Grünbaum in respect to the injurious action of alcohol on the circulation during febrile conditions. The alcohol improves the respiration, he found, but this favorable effect is outbalanced by its unfavorable action on the circulation, the blood pressure dropping and the amplitude growing smaller although the pulse-rate may remain the same. The conclusions are that it is necessary to restrict the use of alcohol in febrile states, weighing in each individual case whether the euphoria that follows the use of alcohol outbalances the inevitable somatic injury.

Deutsches Archiv für klinische Medizin, Leipsic

XCIX, Nos. 1-2, pp. 1-218. Last indexed April 16, p. 1344

83 Soap Crystals in Clay-Colored Stools. (Ueber die Seifenkristalle acholischer Stühle.) H. Boruttau and E. Stadelmann.

84 The Normal Eosinophile Blood Picture. (Ueber das normale eosinophile Blutbild.) J. Arneth.

85 *Variations in the Pulse-Rate Standing and Reclining. (Die Pulsfrequenz im Stehen und im Liegen.) R. Geigel.

86 Share of the Sympathetic Nervous System in the Innervation of the Head. (Beteiligung des sympathischen Nervensystems an der Kopfinnervation.) L. R. Müller and W. Dahl.

87 Changes in the Adjoining Endocardium with Aortic Insufficiency and Stenosis. (Veränderungen am Endokard der Pars aortica bei Insuffizienz und Stenose des Aortenostium.) A. Wilke.

88 *Action of Epinephrin in Respect to the Tonicity of the Peripheral Vessels. (Adrenalinwirkung und peripherer Gefässtonus.) L. Lichtwitz and C. Hirsch.

89 Power of Hemoglobin to Combine with Oxygen. (Ueber das Hämoglobin in normalen und pathologischen Zuständen. II. Sauerstoffbindungsvermögen.) E. Masing and R. Siebeck.

90 *Traumatic Laceration of the Aortic Valve. (Traumatische Zerreissung der Aortenklappe, zugleich ein Beitrag zur Anpassungsfähigkeit des Herzmuskels.) E. Steinitz.

91 Gastric Digestion of Protein. (Ueber Proteolyse im Magen.) L. Kohlenberger.

92 Neutralizing Function of Ammonia in Urine. (Das Harnammoniak beim gesunden Menschen unter dem Gesichtspunkt einer ausschliesslich neutralisatorischen Funktion desselben, sowie die Bilanzverhältnisse zwischen Säuren und Alkalien im menschlichen Harn bei verschiedener Ernährung.) W. Klein and F. Moritz.

85. **Variations in Pulse Rate During Standing and Reclining.**—Geigel is convinced that unless the pulse is examined both as the patient stands and reclines the conclusions are liable to be erroneous as the rate may vary by 24 to 72 per cent. as the extremes; the average is under 30 beats. He has notes of the findings in 789 cases, the patients being examined in both positions. As a rule the pulse drops by 12 beats as the individual reclines. Even with exophthalmic goiter the pulse slowed by several beats as the patient reclined. It is his impression that unusually wide variations and acceleration of the pulse on reclining are signs of weakness of the heart. The effort of lying down may accelerate the pulse in some cases; he advises examination for this "negative" behavior on suspicion of heart disease, nephritis or neurasthenia, and urges double examination of the pulse, standing and reclining, in every clinical case.

88. **Action of Epinephrin on the Peripheral Vessels.**—Lichtwitz and Hirsch removed the nerve controlling the vessels in the rabbit's ear and then tested the action of epinephrin on the vessels in this area. In all their experiments intravenous injection of epinephrin elsewhere had an exceptionally intense constricting action on the vessels in the region deprived of its nerves. Their experiments also showed the prompt antagonistic action of amyl nitrite. They suggest as a practical conclusion from their research that the continuous administration of small doses of a suprarenal extract offers prospects for successful treatment of paralysis of the vessels in acute infectious diseases and also in postoperative collapse.

90. **Traumatic Laceration of the Aortic Valve.**—One leaf of the valve was torn but the myocardium developed compensating hypertrophy which prevented serious disturbance from the isolated valvular lesion, permitting full earning capacity with heavy work for ten years when the symptoms of aortic insufficiency became more pronounced. The case is reported as a remarkable example of the way in which the myocardium can adapt itself to pathologic conditions.

Deutsche medizinische Wochenschrift, Berlin

May 26, XXXVI, No. 21, pp. 969-1016

93 *General Anesthesia with Part of Circulation Shut Off. (Narkosen bei künstlich verkleinertem Kreislauf.) P. Franke.

94 Experiences with Various Types of Tuberculin in Treatment of Tuberculosis. G. Jochmann.

95 *Treatment of Chronic Congestion of the Brain. F. Lots.

96 *Favorable Influence of Roentgen Rays in Exophthalmic Goiter. (Zwei Fälle von Basedowscher Krankheit durch Röntgenstrahlen sehr günstig beeinflusst.) D. Kuchendorf.

97 Complement Content of the Blood with Cancer. (Ueber den Komplementgehalt des Blutes Krebskranker.) C. S. Engel.

98 *Improved Technic for Palpation of the Abdomen. A. Gaiambos.

99 *Experimental Stimulation of Milk Production and the Secretion of Milk in the Blazek United Twins. (Experimentelle Milchausloesung und Verhalten der Milchabsonderung bei den zusammengewachsenen Schwestern Blazek.) K. Basch.

100 *Thyroid Weakness and Sugar Hunger. (Schilddrüsenschwäche und Zuckerhunger.) A. Siegmund.

93. **General Anesthesia With Part of the Circulation Shut Off.**—Franke has applied the Esmarch bandage to the thighs or arms or both as a preliminary to chloroform anesthesia, according to Klapp's suggestion, and has been impressed with the advantages of thus shutting off the blood in these regions from the influence of the anesthetic, the anesthesia being induced with much smaller amounts of the drug than with the ordinary technic. The method cannot be used in case of varicose veins or eczema, joint and bone affections; it will evidently have to be restricted to healthy and vigorous limbs, but under these conditions he feels that it is destined to a wide sphere of usefulness, especially for correction of dislocations, fractures, incision of phlegmons and other brief operations. The patients passed under the influence of the chloroform without any phase of agitation and it was rare at any stage of the anesthesia. The breathing was always regular and there was no cyanosis nor salivation; the pulse rate increased a little after the band was applied and again when it was removed, in one case becoming a little irregular for 10 or 20 minutes. There was no vomiting in any case, either before or after the narcosis, and the patients roused in less than 10 or 15 minutes after suspension of the drug. The return to the circulation of the blood overladen with carbon dioxid exerted a pronounced stimulus on the respiration center, evidenced in each case by several deep breaths. There were no complaints of pain from the constriction. The bandage must be inelastic and applied according to Klapp's directions. (They were summarized in THE JOURNAL Oct. 19, 1907, page 1408.) The aim is to shut off as much as possible of both venous and arterial blood; even one leg may answer the purpose. The pulse and general condition and the condition of the limb or limbs excluded from the circulation should be supervised every moment as with the Momburg belt constriction. A slight transient nervous disturbance was observed in one case in which the band had been left in place for two hours on both legs, and Gräfenberg has recently reported thrombosis in 7 out of 75 cases in which the Klapp technic had been applied. The disturbances proved slight and transient, but they warn that vessels distended with blood are more liable to injury than when the Esmarch bandage is applied to a bloodless limb.

95. **Treatment of Chronic Congestion in the Brain.**—Lots expatiates on the necessity for treating this condition by drawing the blood away from the head while striving to restore and enhance the elasticity of the middle coat of the cerebral arteries. For fifteen years he has been using a method of treatment which he thinks fulfills both conditions and he has recently had occasion to study the mechanism of its action on a young man with a large defect in the skull permitting direct observation of the behavior of the pulse. The treatment includes dry rubbing of the skin over the entire body with a coarse cloth, and trampling barefoot on a pile of fine gravel heated from below. This latter form of application of centripetal stimulation he calls *Kieslaufen*, "gravel

running," and every time it was applied the plethysmographic findings in the instructive case described showed the marked influence of the procedure in reducing the congestion in the head. It may be difficult to distinguish between the symptoms of congestion and those of anemia in the brain; everything that raises the blood pressure and tends to paralyze the middle coat of the arteries increases the disturbances in case of hyperemia in the brain while it reduces them in case of anemia. He warns that a history of syphilis in any case does not necessarily indicate that headache and vertigo are due to "brain syphilis"; they may be the result of simple congestion and mercury and iodid would only aggravate them. His barefoot "gravel running" can be repeated several times a day, up to a half hour each time.

96. **Benefit from Roentgen Rays in Exophthalmic Goiter.**—In the first of the two cases reported by Kuchendorf, part of the enlarged thyroid had been removed on account of cancer but there was prompt inoperable recurrence. Under Roentgen-ray exposures, however, the lesion retrogressed and with it the symptoms of exophthalmic goiter and after a month at Nauheim the patient, a young soldier, reported for duty and has been clinically in good health, with no signs of recurrence during the two years since. The results were equally good in the second case; the patient was a woman who had suffered from progressive symptoms suggestive of exophthalmic goiter for ten years, rebellious to the usual medical measures. As a last resort before thyroidectomy, the Roentgen rays were applied to the thyroid and heart four times each, and the palpitations subsided, as also the profuse sweats; the pulse became regular (78), the circumference of the neck is less by 3 cm. than before treatment, and the eyes no longer protrude so much, while the patient sleeps well and feels well and the dilated heart has returned to a normal outline. The last exposure was in February; whether the benefit attained is permanent or not, it was so striking that he calls attention to the case as suggesting a direct influence of the rays on the cardiac ganglia.

98. **Palpation of the Abdomen.**—Galambos depresses the abdominal wall with one hand, pushing the furrow thus made toward the organ to be examined. This relaxes the wall between the organ and the furrow so that the region is soft and more readily palpated. The hand must be pushed down gently into the depths, and the entire thickness of the wall worked down toward the organ in question. It is possible in this way almost to turn over organs to facilitate palpation.

99. **Milk Secretion in Both the Blazek United Twins After Pregnancy of One.**—See Berlin letter, July 2, page 39.

100. **Thyroid Deficiency and Sugar Hunger.**—Siegmund has encountered some cases in which an inordinate craving for sugar was the most striking sign of defective functioning on the part of the thyroid. He describes two cases in detail, one in a boy under 2, the other in a girl nearly 6. In both cases thyroid treatment restored conditions approximately to normal, emphasizing that the thyroid plays an important part in the sugar metabolism in certain cases. Children with this insatiable craving for sugar tolerate large amounts without the appearance of sugar or albumin in the urine. If thyroid treatment is not practicable they should be allowed all the sugar they crave, as it seems to mitigate the consequences of the thyroid insufficiency and seems to be an arrangement for defense in a certain form of thyroid weakness. The older child had suffered for years from severe diarrhea and was extremely debilitated; by the sixth day of thyroid treatment she walked several miles without fatigue, while the appetite became normal. He sometimes gave suprarenal juice in the place of the thyroid extract, finding that this advantageously supplemented the other. The benefit was equally striking in the second case, the children becoming absolutely transformed under the thyroid treatment.

Medizinische Klinik, Berlin

May 22, VI, No. 21, pp. 811-848

101 *Gonorrheal Epididymitis and its Treatment. C. Bruck.
102 Tuberculidea. S. Gross.
103 The Pupil Reaction in Epileptic Seizures. (Beitrag zur Diagnose der Fallsucht.) F. Buchbinder.
104 Improved Technic for Staining Living Spirochetes. (Färbung der Spirochaeta pallida in vivo nach E. Meirowsky.) L. Zweig.
105 Modified Form of Turgo-Sphygmograph. (Ueber eine kompendiöse Form des Strauss'schen Turgo-Sphygmographen und Turgo-Tonographen.) F. Fleischer.
106 Advantages of the Uhlenhuth-Hune Antiformin Method for Determining Tubercle Bacilli in Sputum. K. Reicher.
107 Inhalation Therapy, with Special Reference to Mineral Saline Waters. (Ueber Inhalationstherapie mit besonderer Berücksichtigung der Soleinhalationen.) F. Krone.
108 *Treatment of Skin Diseases with Small Trephine. (Behandlung von Hautkrankheiten mit dem Hauttrepan.) P. Richter.
109 Mucous Casts in the Urine. (Zylindroide im Urin.) L. Boros.
110 The Cobra-Venom Hemolytic Reaction. (Ueber die Kobragifthämolyse und die Much-Holzmannsche Psychoreaktion.) H. Selter and A. H. Hübner.

101. **Gonorrheal Epididymitis.**—Bruck expatiates on the importance of wearing a suspensory during gonorrhea and refraining from any excess which might aggravate the infection and lead to posterior urethritis. This is the more important as the majority of cases of epididymitis follow gonorrhea with inadequate treatment. The article issues from the university clinic at Breslau in charge of Neisser. In every case of acute febrile painful epididymitis the scrotum is sterilized with tincture of iodin and the tunica propria is incised; this relieves the pain at once and evacuates existing fluid. An alcohol dressing is then applied and if the fever subsides after a day or two gonococcus vaccine treatment is then instituted; this is especially useful in gonorrheal arthritis and epididymitis. The results have been particularly good in 50 cases of the latter. If there is no fever the tunica is not incised and the vaccine injection is made at once accompanying the first alcohol dressing. If the nodules do not subside, hot sand packs are applied for a few days to hasten absorption; if these fail, a dressing of adhesive plaster generally accomplishes the desired purpose. It is also the practice to give 3 mg. of atropin daily in every case of acute posterior gonorrheal infection to keep the prostate, seminal vesicles, etc., quiet and prevent dangerous retrograde movements. Even with already existing unilateral epididymitis, smaller doses up to 1 mg. daily are given for several days. This prophylaxis is not absolutely reliable, he remarks, but even if it succeeds in only a few cases the measure is justified as sterility is said to follow unilateral epididymitis in 40 per cent. of the cases and in 90 per cent. of the bilateral cases.

108. **The Skin Trephine.**—Richter has found extremely useful a small cylinder with a cutting edge. By twisting the cutting edge into the summit of a furuncle or other focus, the little disc of skin thus cut is easily removed and the scar left is minimal. This little skin trephine is also useful for obtaining blood for clinical diagnosis. He supplements the use of the trephine with a suction apparatus when the plug does not come away at once.

Münchener medizinische Wochenschrift

May 24, LVII, No. 21, pp. 1105-1160

111 *Rapid Instrumental Dilatation of the Cervix Uteri. (Entbindung durch rasche Erweiterung des Collum uteri.) M. L. Bossi.
112 The Third Left Convolution Plays no Part in the Central Mechanism of Speech. (Die linke dritte Stirnwindung spielt keine Rolle im zentralen Mechanismus der Sprache.) v. Niessl-Mayendorf.
113 *Superheated Air in Treatment of Erysipelas. (Behandlung des Erysipels mit heisser Luft.) C. Ritter.
114 The Meiostagmin Reaction with Cancer. (Die Meiostagminreaktion bei bösartigen Geschwülsten.) F. Michell and F. Cattoretti.
115 Thirty Cases of Appendicitis within Two Months in a Boarding School. (Endemie von Appendizitis.) C. Hasse.
116 Premature Ossification of Costal Cartilages as Possible Roentgen-Ray Injury. (Frühzeitige allgemeine Verknöcherung der Rippenknorpel eine Röntgenschädigung?) B. Wiesner.
117 Modification of the Wassermann Reaction. E. v. Dungern and Hirschfeld.
118 Intravenous General Anesthesia. (Zur Frage der intravenösen Narkose.) P. Sick.
119 *Prophylaxis of Uterine Cancer. (Gebärmutterkrebs und Aufklärung des Publikums.) F. Müller.

111. **Instrumental Dilatation of the Uterine Cervix.**—Bossi compares the various methods for rapid emptying of the uterus and states that nineteen years' experience with his metal bladed dilator has demonstrated that this method can be applied in nearly every case, even when there has been no change in the cervical passage, and without necessity for an assistant. The dilator has a natural labor-promoting effect as well as a mechanical action as it stimulates natural labor

contractions; but the obstetrician is not subject to Nature's caprices; with the steel dilator he is her master. The liability to laceration is the only objection to the method, and this injury is rare when the gravity of the cases demanding the rapid emptying of the uterus is taken into consideration. Even with spontaneous and forceps deliveries, he remarks, laceration is liable to occur, and cervical incisions cause deeper and certain lesions and danger of laceration of the uterus. None of the dilators in vogue has proved any improvement, he declares, over his original dilator, but it must be used strictly according to his directions, introduced under the guidance of the fingers, the fingers guarding the cervix while the dilator is in place; the blades should be spread only very gradually, and only during a pause between the labor contractions. He has applied the dilator in 480 cases and 454 of the mothers were saved and all but 60 of the children. The main point is to refrain from haste, except in extreme emergencies. He takes from 15 minutes to an hour and a half to dilate the cervical canal sufficiently for extraction of the child. This he does generally with forceps and at once; the cervix dilated in this way is liable to contract soon again. Chloroform can be given, he says, without harm, and general anesthesia is directly indicated in eclampsia requiring rapid emptying of the uterus. If the forcible dilatation is to be merely preliminary to spontaneous delivery, he places the patient in a horizontal position after a few energetic contractions have been observed and holds the dilator in place with a bandage, spreading the branches a trifle occasionally to keep up the stimulus, and removing the instrument when delivery is impending, replacing it if the contractions become weak again.

113. **Superheated Air in Treatment of Erysipelas.**—Ritter has applied the hot-air douche in treatment in 19 cases of erysipelas and states that the rapid recovery was striking. The jet of superheated air was applied to the spot for half an hour to an hour two or three times a day. Absorption is promoted to such an extent that there is generally a slight rise of temperature afterward. The lesions were usually on the face and neck; when other parts of the body were involved he used the hot-air box or chamber (or a hot flat-iron).

119. **Prophylaxis of Uterine Cancer.**—Müller gives an illustration of a circular which he hands to every patient and has printed on the back of the certificates, etc., he makes out. It states in display type that every woman should apply to a physician at once for examination in case of irregular bleeding, especially after marital intercourse and during the change of life and afterward, and in case of an ill-smelling discharge that looks like water in which meat has been rinsed. The text concludes with the statement that cancer of the womb is permanently curable but only by an operation done at the right time; that is, when the patient applies to a physician as early as possible.

Therapeutische Monatshefte, Berlin

May, XXIV, No. 5, pp. 225-280

120 *Importance of Absolute Repose in Treatment of Pneumonia. (Zur Behandlung der Lungenentzündung.) Volland.
121 Importance of Silence in the Cure of Laryngeal Tuberculosis. (Zur Schweigebehandlung der Kehlkopftuberkulose.) E. Ebstein.
122 *Scabies and Nephritis. Braune.
123 *Operative Treatment of Diffuse Meningitis. G. Krebs.
124 *Treatment of Spasm of the Glottis by Exclusion of Milk from the Diet. (Behandlung des Stimmritzenkrampfes mit kuhmilchfreier Ernährung.) F. Fischbein and L. Langstein.
125 Behavior of Peroxids in the Gastrointestinal Tract. (Verhalten der Superoxyde im Verdauungstrakt.) K. Boas.
126 *Indications for Mercurial Treatment in Simple Atrophy of the Optic Nerve. (Indikation für die Quecksilberbehandlung bei der einfachen Schnervenatrophie.) Schultz-Zehden.

120. **Absolute Repose in Treatment of Pneumonia.**—Volland has been teaching since 1893 the importance of absolute bed rest in the dorsal decubitus in pneumonia and pleurisy and declares that both theory and practice confirm the great value of this measure. He does not have the patient move at all and does not let him sit up even to be examined, not wishing to allow the weight of the consolidated lung to drag down on the diaphragm or pull on the sound parts of the lung. The pneumonic lobe loses all its elasticity and acts like a heavy weight, traction from which is liable to do serious harm to the blood and lymph vessels and to the air cells. He thinks the physician can judge of the case well enough without the necessity for thorough physical examination of the lungs. As the patient lies on his back the inflamed part of the lung has a firm support against the rear wall of the thorax and the patient feels easier in this position. Treatment should aim to relieve pain, promote expectoration but reduce the impulse to cough, keep the fever down with local cold applications and stimulate the heart at need.

122. **Scabies and Nephritis.**—Braune encountered three cases of nephritis accompanying scabies and discusses whether there is a causal connection between them or between the nephritis and the beta-napthol or balsam of Peru used in treatment of the scabies. In these and in a number of similar cases in the literature the nephritis did not develop until after the scabies had entered an eczematous stage. It seems probable that the scabies is able to aggravate an already existing nephritis but the matter is still obscure, and he urges systematic examination of the urine before, during and after treatment of the scabies in order to get an insight into the factors responsible for the nephritis.

123. **Operative Treatment of Diffuse Meningitis.**—Krebs' patient was a woman of 34 who developed middle ear disease with an insidious onset and perforation of the tympanic membrane by the end of three months. A large extradural abscess was evacuated two weeks later but symptoms followed typical of internal ear disease and meningitis, rapidly progressing to paralysis and coma and the patient was apparently moribund. The middle cranial fossa was opened and then the posterior; the cortex was congested and swollen but no suppuration could be found; on account of a tendency to hemorrhage from the sinus petrosus no attempt was made to open into the labyrinth. The meningitic symptoms rapidly subsided and recovery was soon complete. The case is cited as encouraging operative treatment in every case of meningitis originating in middle ear disease when the pulse and respiration permit the hope that the patient will leave the table alive. The case further warns that the findings in the cerebrospinal fluid are liable to be misleading and that lumbar puncture may be dangerous, as withdrawal of 2 or 3 c.c. of a slightly turbid fluid, which dripped slowly, was followed by immediate collapse requiring six hours of active measures for resuscitation. Kümmell has reported a case of traumatic meningitis with the fluid like thick pus and yet the patient recovered. Schlesinger has reported a case in which the meningitis became worse after lumbar puncture. Krebs lost three patients while waiting after exposure of the dura; he now makes a practice of incising the dura at once if there are signs of pronounced meningitis. The opening must be ample; hernia of the brain is equally liable with a small as with a large incision, so he makes a large crucial incision and on suspicion of an abscess in the brain inserts the scalpel at several points in the temporal lobe and cerebellum. He did not change the dressings for a week in the case reported. Saline transfusion of 500 gm. was made before and after the operation. The patient was discharged cured in three weeks but the pulse persisted small and fast for months longer.

124. **Treatment of Spasmophilia by Excluding Cow's Milk from the Diet.**—Fischbein insists anew that the change from cow's milk to a carbohydrate, starch diet is often a life-saving measure with spasm of the glottis and general convulsions in the spasmophilic diathesis. He asserts that the prompt influence from this change in diet may differentiate disturbances from this cause when the symptoms otherwise suggest meningitis or otitis media. It is also useful in controlling the spasms in whooping-cough. Langstein warns, however, that the starch diet may have a pernicious effect with infants suffering from severe gastrointestinal disturbances. Breast milk is alone permissible in these cases. He doubts further whether the spasms in whooping-cough are amenable to this measure although conceding that they generally develop on the basis of the spasmophilic diathesis. Eckert has reported excellent results from lumbar puncture.

126. **Mercurial Treatment of Atrophy of the Optic Nerve.**—Schultz-Zehden reviews what has been written on experi-

mental and clinical injury of peripheral nerves by mercury, especially injury of the optic nerve, and then relates his experiences with mercury in treatment of atrophy of the optic nerve with and without an organic nervous affection. His conclusions are all in favor of a mild cautious course of mercurial treatment in simple atrophy of the optic nerve, and above all when there is a history of syphilis and the optic atrophy is the only symptom. Remission of the symptoms in tabes may also be realized under mercurial treatment if there is a history of syphilis, the Wassermann reaction positive or, if negative, a history of inadequate specific treatment, and when the state of nourishment and absence of physical and mental stress augur well for the treatment. The dosage should be mild and cautious, never pushing the mercury, and the field of vision and visual acumen should be constantly supervised.

Virchows Archiv, Berlin

May, CC, No. 2, pp. 193-384

127 Cancroids. A. Calderara. Commenced in No. 1.
128 Case of Lime Incrustation of the Lungs. (Fall von Kalkinkrustation der Lungen mit Fragmentation der elastischen Fasern.) G. A. Pari.
129 *Inhalation of Coal Dust by Children. (Ueber die Staubinhalation bei Kindern.) S. Shingu.
130 The Iron Reaction of Lime-Containing Tissues. (Zur Frage der Eisenreaktion kalkhaltiger Gewebe, insbesondere des Knochens.) M. Sumita.
131 Behavior of Bone Marrow During Children's Diseases. (Ueber das Verhalten des Knochenmarkes bei verschiedenen Erkrankungen des Kindesalters.) J. Lossen.
132 Permeability of Normal Intestine Wall for Minute Particles. (Ueber die Permeabilität der normalen Darmwand für kleine Körperchen.) W. C. A. Arbeiter.
133 Tuberculosis of Parotid Gland. (Fall von Parotistuberkulose als Beitrag zur Frage der Genese der tuberkulösen Riesenzellen.) R. Klotz.
134 Two New Cases of Congenitally Abnormally Large Parietal Foramen. A. Maciesza.
135 Eye Changes with Leukemia. (Ueber Augenveränderungen bei der akuten und der chronischen Leukämie.) P. Verdcrame.

129. Soot in Children's Lungs.—Shingu examined the lungs from 22 children at Berlin to determine the presence of particles of coal dust, and found them constantly in all the children over 23 days old. The amount was not always proportional to the age.

Zeitschrift für Urologie, Berlin

May, IV, No. 5, pp. 231-400

136 Pathology of Gonorrhea in the Male. (Beiträge zur Pathologie der Gonorrhoe des männlichen Urogenitalkanals und seiner Adnexe.) G. Rost.
137 Incontinence of Urine from Urethral Stricture. (Zur Incontinentia urinae infolge von Striktur der Harnröhre.) D. Kokoris.
138 Blood Pressure in Diagnosis and Prognosis of Surgical Kidney Disease. (Bedeutung der Blutdruckmessung für Diagnose und Prognose chirurgischer Nierenkrankheiten.) C. Adrian.

Zentralblatt für Chirurgie, Leipsic

May 28, XXXVII, No. 22, pp. 769-792

139 *Technic for Change of Position of Enlarged Thyroid. (Zur Technik der Kropfdislokation.) C. Arnd.
140 *Etiology of Traumatic Ossifying Myositis. P. Ewald.

June 4, No. 23, pp. 793-816

141 *Improved Technic for Nephropexy. (Zur Operationsmethodik der Nephropexie.) L. Casper.

139. Therapeutic Displacement of Enlarged Thyroid.—In the case reported by Arnd, the left half of the goiter with the parathyroids had been removed, but mechanical disturbances persisted and increased, the lower right half compressing the trachea. Its operative removal seemed hazardous on account of possible injury to the remaining parathyroids. Arnd separated the enlarged thyroid from the trachea and ligated the superior artery. He then separated the sternomastoid from the cleidomastoid upward from the clavicle and pushed the smooth thyroid tumor through the resulting slit. It pushed through readily and was held firmly by the muscles without suturing.

140. Etiology of Traumatic Ossifying Myositis.—Ewald suggests that possibly the synovia forced into an adjacent broad fleshy muscle by the trauma may be responsible for starting the ossifying process. It seems to develop only under such circumstances.

141. Nephropexy.—Casper incises the fibrous capsule and shells the kidney out of its adipose capsule. He then pushes the capsule back and down, cutting it off about 1 cm. from the hilus in front, and cutting off the upper half in the rear. The remaining rear half of the fibrous capsule is then folded together and sutured to the quadratus lumborum in such a way that the upper part of the kidney, or at least half of it, is brought beneath the costal arch. No suture is passed through the parenchyma of the kidney, but the two through the fibrous capsule sustain the kidney until adhesions develop between its rear raw surface and the quadratus lumborum and the front raw surface and the abdominal wall. He has performed this operation for wandering kidney in 19 cases, and for nephritis causing anuria, colics or hematuria in 10 other cases. One patient with extremely contracted kidney died. In all the other cases the kidney grew solidly to its environment.

Zentralblatt für Gynäkologie, Leipsic

May 28, XXXIV, No. 22, pp. 721-752

142 Question of Necessity for Legal Regulation of Artificial Abortion. (Zur Frage der Notwendigkeit gesetzlicher Bestimmungen für den künstlichen Abortus.) H. Peters and R. Blumm.
143 Local Anesthesia in Treatment of Endometritis and Abortion. A. Kraatz.

June 4, No. 23, pp. 753-800

144 Improved Laparotomy Retractor. (Neuer Bauchdeckenhalter.) C. Logothetopulos.
145 Anaphylaxis in Etiology of Eclampsia. (Zur Theorie der Eklampsieätiologie.) J. Thies.
146 *"Prophylactic Method" in Treatment of Eclampsia. W. Stroganoff.
147 *Recovery from Puerperal Eclampsia After Decapsulation of the Kidney. (Ein durch Nierendekapsulation geheilter Fall von puerperaler Eklampsie.) K. Baisch.
148 *Isolation of Stumps of Uterine Adnexa in Laparotomies for Gynecologic Disease. (Neue Technik bein gynäkologischen Laparotomien.) E. Solms.
149 Obstetric Rachiotomy Superior to Decapitation. (Rhachiotomie —Rhachioklast.) V. Caliri.

146. Prophylactic Method of Treating Eclampsia.—Stroganoff reaffirms the efficacy of his method of treating eclampsia by keeping the patients under the influence of morphin, chloral and chloroform, with heat applied to feet and kidney region, milk by the rectum or mouth, and avoidance of any irritation. The details of his method were given in THE JOURNAL, July 3, 1909, page 86, and Sept. 20, 1902, page 733. The mortality of the mothers has been 6.6 per cent. and of the children 21.6 per cent. in the 400 cases of eclampsia in which this method has been followed. He here describes his experience with it in some test cases at Vienna, urging that its systematic application would reduce the mortality below 2 per cent. as he has done in several long series of cases, without any necessity for hastening delivery or for decapsulation of the kidney.

147. Decapsulation of the Kidney in Eclampsia.—Baisch commends decapsulation of the kidney as the most potent and reliable means of stimulating diuresis at our command. In a case reported in detail the primipara was apparently moribund; the eclamptic seizures, coming on after spontaneous delivery, were so severe that artificial respiration was required for a long time after each; the pulse was soon 120 to 130, the blood pressure 150 mm. and only 248 c.c. of urine with albumin 15 per thousand, were obtained in 19 hours. There were no further seizures after the decapsulation and the coma subsided at once; by night 400 c.c. urine with 3 per thousand albumin had been passed.

148. "Isolation of the Stumps" of the Adnexa.—Solms draws the stumps down into the small pelvis and shuts off the open abdominal cavity completely, providing for drainage at need with openings in the front and rear roof of the vagina. The fundus of the uterus is drawn over forward and fastened to the vaginal wall, incised for the purpose. The technic insures that all raw parts are excluded from the peritoneal cavity, and the secretions from the isolated stumps are drained away into the vagina. He says that the method can be applied to the uterus also after myomectomy, etc., and that it obviates danger of infection of the peritoneum from any processes in the genitalia.

Zentralblatt für innere Medizin, Leipsic

May 28, XXXI, No. 22, pp. 545-568

150 The Heart Rhythm in Dogs and Cats Not Modified by Destruction of the Keith-Flack Node. (Bedeutung des Keith-Flack'schen Knotens für den Herzrhythmus.) T. Jaeger (Chicago).

June 4, No. 23, pp. 569-608

151 *Combined Oxygen-Epinephrin Inhalation Method of Treatment of Bronchial Asthma. (Sauerstoff-Adrenalintherapie des Asthma bronchiale.) J. Segel.

151. **Oxygen-Epinephrin Treatment of Bronchial Asthma.**—Segel has an arrangement by which the patient inhales oxygen mixed with 1 c.c. of a 1 per thousand solution of epinephrin and reports two cases in which these inhalations promptly cured severe bronchial asthma, persisting since early childhood, refractory to all other therapeutic measures. The combined oxygen-epinephrin treatment gave remarkable relief in one or two applications and after thirty in the course of two months the cure seems to be complete. The first patient was a woman of 51, the other a girl of 16. A single sitting was followed by a night free from asthma, for the first time in years. The second patient is still taking one sitting a week. He declares that this simple inhalation method justifies the strongest hopes, and it should certainly be given a trial. He experimented with it on himself for weeks until convinced that the combined oxygen-epinephrin inhalations were free from any influence on the blood pressure and untoward by-effects.

Policlinico, Rome

May 22, XVII, No. 21, pp. 643-674

152 Cultivation of Leishman Bodies in Blood from the Spleen with Addition of Citric Acid. (Sulla coltivabilita della Leishmania infantum nel sangue splenico infetto citratato.) A. Longo.

May 29, No. 22, pp. 676-706

153 *Sodium Carbonate and Acetic Acid Seroreaction. (Su di una nuovissima e facile siero ed emoreazione col carbonato di sodio e l'acido acetico dilutissimi e sul suo insigne valore semiologico e prognostico.) F. Rivalta. Concluded in No. 23.

May, Surgical Section, No. 5, pp. 193-240

154 Lipomas on Skull or Foot. (Lipoma a sede rara.) G. Serafini.
155 Epithelioma Derived from Basal Cells. (Contributo alla conoscenza dell'epitelioma delle cellule basali.) V. Gaudiani.
156 Experimental Research on Defensive Action of Constriction Hyperemia. (Ricerche sulla azione difensiva della stasi.) M. Almagia and R. Tata.

153. **Acetic-Acid Seroreaction.**—Rivalta published in 1904 a method of distinguishing between transudates and exudates by the precipitation of the globulins in the fluid by a weak solution of acetic acid. If a drop of the fluid to be examined is dropped into a glass containing 100 c.c. of water with which two drops of glacial acetic acid have been mixed, the drop of organic fluid leaves a trail like a little smoke as it sinks down through the water. He now announces that this test slightly modified can be used for the diagnosis and prognosis in various conditions, the positive reaction in an extremely weak dilution of the acetic acid indicating the resisting powers of the organism, as estimated by the ability to produce globulins. In health serum gives the reaction at 1: 150 or 1: 300 but in pneumonia the figures were 1: 400 up to 1: 2500; in 19 cases of typhoid up to 1: 900. The lower the figure the graver the prognosis as a rule, the increase of the globulins in the blood showing the active processes of defense going on. He describes the technic for both the serum and the blood test, but the former is simpler. While the blood is clotting, he mixes one drop of a saturated solution of sodium carbonate with 100 c.c. of distilled water, and in another glass two drops of glacial acetic acid with 100 c.c. of distilled water. Then 0.5 c.c. of the serum is transferred to a test tube which is then filled to 10 c.c. with the sodium carbonate solution. This is the mother serum solution, and a drop is taken on a glass rod, held vertically, and transferred to the acetic-acid solution; it drops from the rod in the form of a white ring, best seen by artificial light. The serum is diluted again and again to determine the extreme limits of the reaction. He relates his experiences with it in a number of cases.

Hospitalstidende, Copenhagen

April 13, LIII, No. 15, pp. 417-440

157 Two Cases of Multiple Syphilitic Atrophy of the Skin. (To Tilfaelde af postsyfilitiske multiple Hudatrofier.) H. Petersen.

April 20, No. 16, pp. 441-464

158 Carbon Dioxid in Regulation of Lung Ventilation. (Om Kulsyre som Regulator i Organismen og Aarsagerne til kirurgisk Shock.) A. Krogh.

April 27, No. 18, pp. 489-512

159 Favorable Results of Roentgen-Ray Treatment in 3 Cases of Hemorrhagic Uterine Myoma. J. Jensen. Commenced in No. 17.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

DIE RÖNTGENTHERAPIE IN DER DERMATOLOGIE. Von Dr. Frank Schultz, Privatdozent, Oberarzt der Abteilung für Lichtbehandlung an der Kgl. Universitätspoliklinik für Hautkrankheiten zu Berlin. Paper. Price, 6 marks. Pp. 143, with 130 illustrations. Berlin: Julius Springer, 1910.

THE EVIDENCE OF PLAGUE INFECTION AMONG GROUND SQUIRRELS. By George W. McCoy, Passed Assistant Surgeon, United States Public Health and Marine-Hospital Service. Paper. Pp. 8. Washington: Government Printing Office, 1910.

DIAGNOSTISCH-THERAPEUTISCHES TASCHENBUCH DER TUBERKULOSE. Ein Leitfaden für den praktischen Arzt. By Dr. D. Epstein, Kief, Russia. Cloth. Price, 5 marks. Pp. 143. Vienna: Urban & Schwarzenberg, 1910.

TUBERCULOSIS OR CONSUMPTION AND HOW TO AVOID IT. Lessons for School Children. Provided by Dispensary Aid Society of Tuberculosis League of Pittsburg. Paper. Pp. 48, with illustrations.

STUDIES FROM THE ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH. Reprints. Volume X. Paper. Pp. 277. New York: The Rockefeller Institute for Medical Research, 1910.

DIE ORTHOPÄDIE DES PRAKTISCHEN ARZTES. Von San.-Rat Dr. Georg Müller, Berlin. Paper. Price, 8 marks. Pp. 258, with 151 illustrations. Vienna: Urban & Schwarzenberg, 1910.

DIE PRAXIS DER LOKALEN ANÄSTHESIE. Von Dr. Artur Schlesinger, Berlin. Cloth. Price, 5 marks. Pp. 160, with 22 illustrations. Vienna: Urban & Schwarzenberg, 1910.

New Patents

Recent Patents of Interest to Physicians

950065. Surgical appliance. James N. Alexander, Pratt City, Ala.
949749. Microscope. Edward Bausch and W. L. Patterson, Rochester, N. Y.
949925. Composition of matter to be used for the removal of superfluous hair. Cornelia J. Brown, Los Gatos, Cal.
950435. Obtaining protocellulosic products. Henri L. J. Chavassieu, Lyons, France.
950436. Separation of oxygen and nitrogen from liquid air. Georges Claude, Paris, France.
950439. Water-purifier. Milton B. Cresswell, Des Moines, Iowa.
950347. Ozone generator. Robert W. Rice, Cleveland, Ohio.
950159. Manufacture of trisodium phosphate with hydrated sodium carbonate. William E. Ridenour, Philadelphia.
950143. Bandage. Earl H. Saxe, Lansdale, Pa.
950059. Massage apparatus. Emma G. Sickels, New York City.
950121. Cup or head for massage device. Charles M. Siebert, Jr., Columbus, Ohio.
950357. Extracting caffein. Heinrich Trillich, Munich, Germany.
951044. Combined hot-water bottle and syringe-reservoir. Sherman L. Axford, Burlington, Kan.
950738. Nebulizer. Burton E. Baker, Hartford, Conn.
950993. Supporter. Mary M. Buchholz and M. A. Malloy, Spokane, Wash.
950058. Opium ointment. Thomas H. Cadenhead, Georgetown, Ga.
951067. Apparatus for recovering ether and alcohol. Charles Crepelle-Fontaine, La Madeleine lez Lille, France.
950816. Respirator and the like. John Eriksson and P. M. Arvidsson, Stockholm, Sweden.
950484. Attachment for poison-bottles. Lewis Inslee and C. M. Hart, Amityville, N. Y.
950854. Sanitary head-rest. Ernest E. Koken, deceased, St. Louis, Mo.; W. F. Koken, exr.-ator.
950822. Hypodermic needle. Patrick J. McElroy, Cambridge, Mass.
950514. Abdominal belt and uterine supporter. Elizabeth M. O'Mera, Providence, R. I.
950876. Sterilizer and water-heater. Albert R. Talbott, Ellis, Kan.
950545. Caster for operating-tables. Albert Taubert, New York.
950977. Means for deodorizing and drying night-soil and the like. Ernest T. Welcome, Pittsburg, Pa.
40558. Design. Liquid-dispensing fountain. Frank W. Calvert, Narberth, Pa.
951560. Surgical chair. Ida Eaton, Aurora, Neb.
951634. Compound of guaiacol and making same. Franz Elger, Basel, Switzerland.
951309. Chiropodist's knife. Ammaroy Eskridge, Chicago, Ill.
951184. Catamenial bandage. Manly M. Gillam, New York City.
13089. Instrument for determining the position of an organ or the like within human bodies. J. Gillet, Schoneberg, Germany.
951243. Making sodium carbonate. Wilhelm Hasenbach, Mannheim, Germany.
951564. Surgeon's and physician's case. Max P. Hermann and C. H. Wolff, Philadelphia.
951443. Ozonizer. Oscar Linder, Chicago, Ill.
951648. Abdominal-fat-reducing appliance. Albert M. Loughney, Seattle, Wash.
951195. Otacoustic. Ernest May, Dusseldorf, Germany.
951285. Speculum. William Meyer, Chicago, Ill.
951330. Sanitary cuspidor for railway cars. John L. Oglebay, Rochester, Ind.
951749. Artificial foot. James F. Rowley, Chicago, Ill.
951515. Attachment for physicians' operating-tables. F. H. Solsen, Peterson, Minn.
951749. Aspirator. Isidor Steiner, Munich, Germany.
951160. Syringe. John W. Wainwright, New York City.
951228. Decomposing salts. Jasper Whiting, Boston, Mass.
951789. Ozone-generator. Frank M. Ashley, New York City.
952307. Spirometer. Lysander D. Childs, Chester, S. C.
951989. Artificial limb. James E. Hanger, Washington, D. C.
952248. Oxidizing atmospheric nitrogen. Henry Howard, Boston, Mass.
952365. Aseptic drinking-cup. James G. Sharon, Quincy, Fla.
951893. Pasteurizing apparatus. Henry E. Weber, Canton, Ohio.

V. 55 1910